DEPARTMENT OF AGRICULTURE APPROPRIATIONS FOR 1958

HEARINGS

BEFORE THE

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF AGRICULTURE AND RELATED AGENCIES APPROPRIATIONS

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PART 2

AGRICULTURAL MARKETING SERVICE
AGRICULTURAL RESEARCH SERVICE
COMMODITY EXCHANGE AUTHORITY
EXTENSION SERVICE
FARMERS COOPERATIVE SERVICE
GENERAL AGRICULTURAL OUTLOOK

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DEPARTMENT OF AGRICULTURE APPROPRIATIONS FOR 1958

TUESDAY, JANUARY 29, 1957.

AGRICULTURAL RESEARCH SERVICE

WITNESSES

ERVIN L. PETERSON, ASSISTANT SECRETARY OF AGRICULTURE
DR. B. T. SHAW, ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE
DR. GEORGE W. IRVING, JR., DEPUTY ADMINISTRATOR FOR RESEARCH AGRICULTURAL RESEARCH SERVICE
DR. M. R. CLARKSON, DEPUTY ADMINISTRATOR FOR REGULATORY PROGRAMS, AGRICULTURAL RESEARCH SERVICE
DR. E. C. ELTING, DEPUTY ADMINISTRATOR FOR EXPERIMENT STATIONS, AGRICULTURAL RESEARCH SERVICE
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DR. W. M. SCOTT, ASSISTANT DIRECTOR, UTILIZATION RESEARCH, AGRICULTURAL RESEARCH SERVICE

PLANT AND ANIMAL DISEASE AND PEST CONTROL, AND MEAT INSPECTION

DR. W. L. POPHAM, DIRECTOR, CROPS REGULATORY PROGRAMS, AGRICULTURAL RESEARCH SERVICE
DR. C. D. VAN HOUWELING, DIRECTOR, LIVESTOCK REGULATORY PROGRAMS, AGRICULTURAL RESEARCH SERVICE

STATE EXPERIMENT STATIONS

DR. H. C. KNOBLAUCH, DIRECTOR, STATE EXPERIMENT STATIONS DIVISION, AGRICULTURAL RESEARCH SERVICE
DR. D. V. LUMSDEN, DIRECTOR, TERRITORIAL EXPERIMENT STATIONS DIVISION, AGRICULTURAL RESEARCH SERVICE

RESEARCH ON STRATEGIC AND CRITICAL AGRICULTURAL MATERIALS

DR. K. S. QUISENBERRY, DIRECTOR, CROPS RESEARCH, AGRICULTURAL RESEARCH SERVICE

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DR. C. D. VAN HOUWELING, DIRECTOR, LIVESTOCK REGULATORY PROGRAMS, AGRICULTURAL RESEARCH SERVICE
DR. T. C. BYERLY, ASSISTANT DIRECTOR, LIVESTOCK RESEARCH, AGRICULTURAL RESEARCH SERVICE

REIMBURSEMENTS TO COMMODITY CREDIT CORPORATION FOR ADVANCES FOR ANIMAL DISEASE ERADICATION ACTIVITIES

DR. C. D. VAN HOUWELING, DIRECTOR, LIVESTOCK REGULATORY PROGRAMS, AGRICULTURAL RESEARCH SERVICE

Mr. WHITTEN. The committee will come to order. We come first to the Agricultural Research Service of the United States Department of Agriculture. We have Assistant Secretary Peterson, Dr. Shaw, and their associates with us today.

We will put pages 1 through 4 of the justification in the record at this point.

(Pp. 1 through 4 of the justification follow:)

PURPOSE STATEMENT

The Agricultural Research Service was established by the Secretary of Agriculture on November 2, 1953, under the authority of section 161, Revised Statutes (5 U. S. C. 22), Reorganization Plan No. 2 of 1953, and other authorities. It conducts all of the production and utilization research of the Department (except forestry research), and the inspection, disease and pest control and eradication work closely associated with this research. The Administrator of this Service is also responsible for the coordination of all research of the Department.

The program of the Agricultural Research Service is organized under three areas of activity as follows:

1. Research is conducted under five major categories: (*a*) Crops research; (*b*) farm and land management research; (*c*) livestock research; (*d*) home economics research; and (*e*) utilization research.

2. Regulatory activities are conducted under three major categories: (*a*) Plant disease and pest control; (*b*) animal disease and pest control; and (*c*) meat inspection.

3. The Service administers the Federal-grant funds for research at the State agricultural experiment stations and operates experiment stations in Puerto Rico, Virgin Islands, and Alaska.

The Agricultural Research Service also carries out emergency programs, when necessary, for the control and eradication of animal diseases, such as foot-and-mouth disease and vesicular exanthema of swine, and for the control of emergency outbreaks of insects and diseases. In addition, research is conducted on the feasibility of developing domestic sources of supplies for agricultural materials designated as strategic and critical. Research on foot-and-mouth disease is conducted at Plum Island, N. Y., in facilities made available to this Department by the Department of the Army and, in 1957, will be carried on in the new laboratory for which $10 million was provided in the Urgent Deficiency Appropriation Act, 1952.

The Agricultural Research Service maintains a central office in Washington, D. C., and operates the 12,000-acre Agricultural Research Center at Beltsville, Md. However, most of the work is conducted at approximately 450 other locations in the United States, Territories, and possessions and several locations in foreign countries. Much of the work is conducted in cooperation with the State agricultural and experiment stations and with other agencies, both public and private. On November 30, 1956, there were 14,421 full-time employees, of which 3,073 were in the Washington metropolitan area and 11,348 were located at other points in the United States, Territories, and possessions, and foreign countries.

	Appropriated, 1957	Budget estimate, 1958
Appropriated funds:		
Salaries and expenses:		
Research	$49,972,000	$56,910,000
Plant and animal disease and pest control	[1] 28,794,000	26,952,000
Meat inspection	15,650,000	18,718,000
Total	94,416,000	102,580,000
State experiment stations:		
Payments to States, Hawaii, Alaska and Puerto Rico	29,503,708	34,003,708
Penalty mail		250,000
Total	29,503,708	34,253,708
Diseases of animals and poultry: Research	3,500,000	3,640,000
Animal disease laboratory facilities	[2] 16,250,000	
Total appropriated funds	143,669,708	[3] 140,473,708

[1] Includes $1,250,000 made immediately available in fiscal year 1956 for control of Medfly.

[2] Excludes $221,079 of fiscal year 1956 appropriation of $250,000 available for obligation in 1957.

[3] In addition, the 1958 budget proposes an appropriation to reimburse the Commodity Credit Corporation for funds advanced and expenses incurred in fiscal year 1956 with interest thereon through June 30, 1957 for (1) eradication of vesicular exanthema of swine ($1,853,450) and (2) for the intensified brucellosis eradication program ($16,728,210). These items are included in these justifications under "Special activities."

Summary of appropriations, 1957, and estimates, 1958

Appropriation item	Total appropriated, 1957	Budget estimates, 1958	Increase or decrease
Salaries and expenses, Agricultural Research Service:			
Research	$49,972,000	$56,910,000	+$6,938,000
Plant and animal disease and pest control	[1] 28,794,000	26,952,000	−1,842,000
Meat inspection	15,650,000	18,718,000	+3,068,000
Total, Salaries and expenses, Agricultural Research Service	94,416,000	102,580,000	+8,164,000
State experiment stations, Agricultural Research Service:			
Payments to States, Hawaii, Alaska, and Puerto Rico	29,503,708	34,003,708	+4,500,000
Penalty mail		250,000	+250,000
Total, State experiment stations, Agricultural Research Service	29,503,708	34,253,708	+4,750,000
Diseases of animals and poultry:			
Research	3,500,000	3,640,000	+140,000
Eradication activities	[2]	[2]	
Animal disease laboratory facilities	[3] 16,250,000		−16,250,000
Research facilities for foot-and-mouth and other diseases of animals at Plum Island, N. Y.	[4]		
Total	143,669,708	140,473,708	−3,196,000
Special activities:			
Research on strategic and critical agricultural materials	314,000	325,000	+11,000
Reimbursements to Commodity Credit Corporation for advances for animal disease eradication activities:			
For eradication of foot-and-mouth disease	[5] 1,269,330		−1,269,330
For eradication of vesicular exanthema of swine		[6] 1,853,450	+1,853,450
For brucellosis eradication	[5] 11,791,624	[5] 16,728,210	+4,936,586
Total, reimbursements to Commodity Credit Corporation	13,060,954	18,581,660	+5,520,706
Total, special activities	13,374,954	18,906,660	+5,531,706

[1] Includes $1,250,000 made immediately available for control of Mediterranean fruit fly. Of this amount, $987,445 was obligated in 1956.

[2] Authority to make transfers from other funds available to the Department to finance the eradication of vesicular exanthema in swine was provided in 1957 in the amount of $1,550,000, and $1,270,000 is proposed in 1958.

[3] In addition, a balance of $221,079 of the $250,000 appropriated in 1956 for preliminary planning is also available in 1957.

[4] It is estimated that entire unobligated balance of $785,617 brought forward from prior years will be obligated in fiscal year 1957. The facilities were dedicated on Sept. 26, 1956.

[5] To cover unreimbursed expenses through fiscal year 1955, including interest thereon through June 30, 1956.

[6] To cover unreimbursed expenses through fiscal year 1956, including interest thereon through June 30, 1957.

Mr. WHITTEN. We will be glad to have your general statement now, Mr. Peterson.

GENERAL STATEMENT OF ERVIN L. PETERSON, ASSISTANT SECRETARY OF AGRICULTURE

Mr. PETERSON. Mr. Chairman and gentlemen of the committee, I am glad to have the opportunity to discuss the proposed 1958 budget of the Agricultural Research Service. The sympathetic understanding and support of this committee during the time I have been with the Department has been most gratifying to me—and to my colleagues responsible for administering the agricultural research and regulatory programs. The increased research appropriations last year—the largest on record—have made it possible for us to build greatly needed facilities and to expand our research effort in a number of directions. They have given our scientists renewed incentive, and I believe the benefits to agriculture will be substantial.

Today, I would like to tell you about some of the areas of our work that we believe should be further strengthened. Dr. Shaw and his associates will be prepared to discuss in such detail as you wish the entire budget for the Agricultural Research Service.

STRENGTHENING THE FARMER'S POSITION THROUGH RESEARCH

Certainly, the most immediate concern of all of us is to help farmers find profitable markets for their products. We're working on this from many angles, and the results are encouraging. But—looking ahead—I am convinced that we must continue and expand our research to find new uses and hence new and permanent markets.

We believe that America's developing industry can become one of the great farm markets of the future. We are accumulating evidence that agricultural products properly modified can compete in industry with other raw materials. The use of agricultural fats in livestock feed, plastics and detergents, for example—or chemically modified cotton fiber for specific purposes—has proved that agricultural products can compete for industrial markets—if we put forth sufficient research effort.

To exploit these new market possibilities, we must have efficient production of agricultural products. In fact, if industry is to make increasing use of agricultural raw materials, it must be able to depend on stable and continuing supplies. This means farmers must be able to plan their crop and livestock enterprises with the certainty that they will obtain expected yields of good quality products.

MORE EFFICIENT USE OF WATER

The job begins with proper soil and water management. Water has become a scarce natural resource. Dwindling water supplies and falling water tables make it imperative that every means be taken to assure its efficient use.

Much is yet to be learned about the behavior of floodwaters and the effects of running water on soil erosion. The sedimentation problem is becoming particularly acute. Farmers need better information on methods of reducing water losses, on water requirements of crops, and on methods of water application and distribution. In many instances, in the arid areas, as much as three-fourths of the water diverted from streams is lost before it reaches the soil root zone. Farmers need more precise information on proper combinations of fertilizer and irrigation practices in crop rotations in order to get highest yields without depleting soil productivity.

PREDEVELOPMENT RESEARCH FOR UPPER COLORADO RIVER BASIN

Extensive plans are underway to speed up the development of the upper Colorado River Basin. But not enough information is available to serve as a guide on soil management and irrigation practices to assure successful irrigation agriculture. Information obtained in predevelopmental research in the Columbia River Basin made it possible for farmers settling in that area to get reasonable returns for their investment. For example, the increase in yields as a result of the discovery of zinc deficiency and how to overcome it paid in 1 year

for all the predevelopment research conducted in the Columbia River Basin. The same type of soil and water research will surely pay off in the upper Colorado River Basin. It may well mean the difference between success and failure for farmers settling in the area. The growing use of water everywhere for agriculture is bringing like problems to all agricultural areas of the country.

REDUCING LOSSES FROM DISEASES AND PESTS

If farmers are to stabilize production and cut costs, they must also be able to reduce the heavy losses—estimated in the billions—caused by diseases, insects, weeds, and other pests. They particularly need more information to help them plan ahead—to know the possibilities of buildup of pests—so they can be ready to meet such problems in advance of damage.

The development of resistance by many insects to insecticides has put serious obstacles in our progress in chemical insect control. Every year additional insects are showing resistance to whole groups of related chemical insecticides. The problems of residues and possible injury to beneficial insects are also becoming prominent. The immediate job of research is to find equally effective, yet safer, insecticides, as well as improved application equipment and methods.

Although we probably never can hope to do away with chemical insecticides altogether, we should more fully explore other possibilities of insect control. Biological control is one field that offers great potentialities. Our scientists are working with both parasitic diseases and insects, and some extremely promising leads are developing. For example, in preliminary field tests, a corn-borer fungus has given as high as 90-percent control of the European corn borer. Three insect parasites of the spotted alfalfa aphid are being field tested, and two of them look especially promising. We're proposing more intensive research on biological control. We believe it holds promise of great dividends to farmers.

Pests of livestock are equally destructive. It has been estimated that parasites cost livestock and poultry producers $430 million a year. This means a tremendous loss of feed and labor. We believe intensified research on livestock parasites will pay off in lower production costs and a more profitable animal agriculture.

NEED FOR ECONOMIC RESEARCH RELATING TO THE FARMER

The Federal Government is spending large sums of money annually for farm programs designed to bring production in balance with demand, to support commodity prices, to conserve soil and water resources, and to improve the economic position of farmers and the welfare of the general public. These programs require continuous study and analysis if they are to keep abreast of changing conditions.

If we are to keep our farm programs geared to farm needs, we must develop and maintain—for significantly different farm situations—current information on farm size, farming systems, farming practices, tenure, production costs, income, and investments, and year-by-year changes that farmers are making. We need also to evaluate the effects of alternative programs and measures in each area and each farm situation. Only in this way can we analyze and measure the

combined regional and national effectiveness of programs in achieving production adjustment, conservation, and other program objectives.

We do not now have sufficient facts on these subjects, and we are proposing an increase in our production economics research in an effort to get them. We are convinced that an expanded effort in production economics research can help farmers to better their position in the Nation's economy.

PAYMENTS TO STATES

A major share of the research planned with new funds will be carried on cooperatively by scientists in the Department of Agriculture and the State experiment stations. And we propose to strengthen agricultural research in the States and Territories cooperating in these studies. The funds will be distributed to experiment stations in 48 States, Hawaii, Alaska, and Puerto Rico in accordance with provisions of existing legislation.

It is particularly important that the capacity of the State land-grant college and university system to perform agricultural research be continually strengthened. From these institutions come the trained personnel necessary to the conduct of agricultural research both public and private. Many of the practical operating problems of farmers are of a local nature. The States are close to these problems. It is through research at the State level that the student, the graduate, and the young scientist are first introduced to the problems and techniques of research. State research can and should also perform much of the basic research, that type of research which has no fixed destination, which provides the information, the tools, necessary to finding the answers to the day-to-day operating problems which are arising with increasing frequency.

Federal research is also of great significance. Overall there must be the closest possible State and Federal cooperation in the entire field of agricultural research to the end that both may make the greatest possible contribution toward making it possible for our farm people to attain a satisfactory living in enterprises characterized by changes occurring with increasing rapidity.

NEW PEST CONTROL PROBLEMS

It seems every time we come before this committee, we have some new pest-control problems to worry about. And this year is no exception.

The soybean cyst nematode has now been found in Tennessee and Missouri, as well as North Carolina. This pest constitutes a serious threat to soy beans, as well as snap beans, lespedeza, and common vetch.

A new parasitic plant called witchweed has been found in several counties in both North and South Carolina. This insidious weed destroys corn and other crops of the grass family by penetrating their roots and depriving them of nutrients and water. Weed specialists estimate witchweed, if uncontrolled, could equal the damage of the corn borer.

Hearings are to be held in Washington on January 30 and 31 to decide whether it is advisable to institute quarantines against both the

soybean cyst nematode and witchweed. In the meantime, scientists in the Department and the affected States are making every effort to find effective methods of controlling or eradicating these extremely destructive pests.

PROGRESS MADE ON CONTROL OF INSECT PESTS

Along with our problems, I'm happy to report that all signs point toward complete success in our all-out fight against the Mediterranean fruitfly. In cooperation with Florida, nearly 800,000 acres have been treated, and half of the infested area has been cleaned out and removed from quarantine regulations. We expect to have complete eradication in the near future.

Similar success seems assured in our job of eradicating the khapra beetle in seed and grain storages in the West.

Dr. Clarkson will discuss these and other regulatory programs in more detail. But I want to mention some programs in need of strengthening.

MEAT INSPECTION NEEDS

Meatpacking operations are being slowed down because of the lack of meat inspectors. This running below capacity adds to processing costs and to the cost of meat. Our inability to provide enough inspectors results essentially from an expansion in the number of plants and decentralization of the packing industry along with an increase in the number of animals slaughtered under Federal inspection. Additional funds are needed for this work.

CONTROL AND REGULATORY NEEDS

We also need to strengthen our plant and animal quarantine and control programs. The committee will recall that last year we presented copies of policy statements that had been worked out with the State governments, covering procedures to be followed in our cooperative efforts to carry out joint responsibilities for the prevention, control, and eradication of diseases and pests. I want to say that we have been very pleased with the benefits derived from these statements. They form a sound basis for our joint planning whenever a new disease threatens or an old one gets out of hand.

Our progress and problems in control and regulatory work stress the interdependence of research and regulatory work in protecting the Nation's argriculture. There is no other area of agricultural endeavor in which research results are applied more rapidly than in these prevention, control, and eradication programs. The benefits go the other way, too. Regulatory workers locate the disease or pest, mark its boundary of spread, and hold it in check while scientists work to develop means of control and eradication. Each group must depend on the other—each must be capable of carrying its share of the burden.

NEED FOR FACILITIES AND PERSONNEL

And that brings me to the last point in my discussion—the need for facilities and personnel. Last year, provision was made for the construction of a national seed storage laboratory, a crops and soils laboratory, a poultry brooder house, a fruit and vegetable utilization

laboratory, and an animal disease laboratory. I'm happy to report that good progress is being made on these facilities.

These new structures, as well as others authorized in recent years, constitute an important advance in our efforts to catch up with the need for adequate research facilities. In the budget now being submitted, we propose some additional facilities that are important to the efficiency of our research efforts. Modern facilities help assure the most productive work of our trained scientists. They will also help us recruit and retain people with the necessary competence to operate effective research programs.

Competition for scientists is becoming more and more serious. Constant contact is being maintained with colleges and universities graduating students in agricultural sciences. We're doing all we can to interest outstanding graduates in agricultural careers. But, if the State experiment stations and the Department are to continue to perform the research function as visualized by all of us, we must improve our ability to attract and retain outstanding people.

Dr. Shaw and his associates are here to discuss the budget in more detail, and we will all be glad to try to answer any questions you may have.

Mr. WHITTEN. Thank you, Mr. Secretary.

I believe it would be well for Dr. Shaw to present his general statement now. He will probably fill in some of the details we will be asking about.

GENERAL STATEMENT OF DR. B. T. SHAW, ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE

Dr. SHAW. Before we go on asking our directors to discuss the details of the budget, I would like to point out some of the broader implications of our research program and its effect on agriculture.

RESEARCH AND THE FARMER

Agricultural research succeeds only as it benefits farmers. This has been the basic concept underlying research of the United States Department of Agriculture since its establishment more than 90 years ago. From the day when the first scientist began his first experiment, Department research has been directed toward making farming more profitable for more farmers.

Peace, war, prosperity, depression: none of these has altered the responsibility of research.

But such forces as these do strongly influence emphasis on agricultural research—pointing up certain research jobs as more urgent than others. It is this aspect of research—its most important jobs—that I should like to talk about today.

Briefly, today's research has three important jobs. First, research must be adequate to protect what we already have; second, it must play an increasingly important part in improving the balance of agriculture; it must help farmers to make a living from farming; and third, it must build now for the future.

RESEARCH TO PROTECT WHAT WE HAVE

Employing research to protect what we already have means adding to our knowledge of methods of protecting our natural resources—our soil and our water—and of protecting our productive capacity.

Next to farmers themselves, soil and water are undoubtedly our most valuable—and from a standpoint of supply—our most critical agricultural possessions.

We can get a good idea of the vital necessity of protecting our soil and water by briefly examining these two resources in terms of our needs.

Each minute that I talk with you, our population increases by 5 or 6 persons. Tomorrow at this time our numbers will have grown by 7,000 to 8,000.

It is estimated that to meet the needs of this expanding population, farm output must increase 25 percent by 1975.

If this increase were to come by simply farming more acres, it would be necessary to boost cropland by 100 million acres; pasture and range lands by 300 million acres. In reality, we will add very few acres to our productive lands within the next two decades. The likelihood is that we'll add not more than 30 million acres to our total cropland; we'll lose about 25 million acres of our pasture and range land.

We must remember too, that we are still fighting an uphill battle against soil loss through deterioration, erosion, and watershed damage.

Water offers similar problems.

It is estimated that there is only enough extra water in the West to irrigate 16 million more acres. In the humid region, where farmers normally depend on rain, they currently lose one-third of the water as runoff.

Without a doubt, research can do much that will help farmers protect their soil and water. For example, soil scientists believe that it's ultimately possible to eliminate the loss of soil by wind and water erosion.

Evidence of their progress toward this goal shows up in the results of research from many sections of the United States.

PROTECTING OUR SOILS

Cooperative research in Kansas has thrown much light on the dynamics of soil blowing. This information is proving helpful at the present time in our efforts to protect soil against wind erosion.

Increased machinery use in the production of row crops is making compacted soils a widespread problem in the South. Research is making headway in helping farmers overcome the yield-reducing effect of these compacted soils. Experimental use of tillage implements to break up hardpans has increased soil-water intake, improved root growth, and has increased crop yields.

Scientists are finding that trashy tillage practices that leave crop residues on the soil surface can effectively reduce soil loss by wind and water erosion. At Beltsville, Md., corn seedbeds prepared in this manner retained their high level of erosion resistance throughout the growing season.

PROTECTING OUR WATER RESOURCE

Research is also making important progress toward protecting our water resource—principally by finding ways of preventing or reducing its waste.

In the humid region research is developing cropping systems and tillage practices that get more of the rain into the soil. For example, experiments with forage crops at Clemson, S. C., have shown that rain enters the soil more readily when it is planted to alfalfa or a fescue-clover mixture, than when it is planted to annual lespedeza. Research at many locations around the country established the value of trashy tillage as a way of increasing infiltration of rain into the soil.

Other research is helping the irrigation farmer save more available water. In South Dakota, for example, scientists showed farmers that they could grow as many sugar beets per acre with 2 irrigations as with 8, and in Brawley, Calif., they demonstrated that growers could produce as many marketable cantaloupes with 5 as with 10 to 13 irrigations.

In the Southeast, where supplemental irrigation is being widely recommended, scientists are helping farmers save water with improved methods of application, and by determining the probabilities of drought in any given area. Drought information will be valuable in predicting the need for irrigation, and the amounts of water likely to be required.

CONTROLLING PESTS AND DISEASES

Another important way to protect our farm productivity is through research and regulation that results in better pest control. Objectives in our regulatory and control services are first, to keep pests out of this country; second, to eradicate established pests, and third, where eradication is not feasible, to contain and prevent the spread of pests to new areas. When we can neither eradicate nor contain a pest, then we must learn to live with it.

The state of our research information largely determines whether our efforts will be directed toward eradication, containment, or on-the-farm control.

Consider the spotted alfalfa aphid, which was first found in the United States about 3 years ago. We had very little knowledge of this insect, and, as a result, have found it hard to deal with. Our best answer has been to develop methods of insecticide treatment that can be used by farmers. Meanwhile, the pest has spread into 30 States. As our current research efforts turn up more facts about this aphid, farmers will be better able to cope with it.

Knowledge gained through research underlies our present-day eradication efforts against such animal diseases as vesicular exanthema in swine and brucellosis in dairy cattle. It is the basis for our eradication efforts against the gypsy moth in the Northeast, the khapra beetle in the West, and the Mediterranean fruitfly in Florida.

For example, knowledge and methods obtained from research on fruitflies in Hawaii were the basis for our present eradication efforts against the Mediterranean fruitfly. This effort is progressing so well that cooperating Department and Florida control officials believe that the pest will be eradicated within the year.

The threat to our agriculture that is posed by pests such as these is minimized by large expenditures for regulatory services and for research. And yet it is readily apparent that whatever total of time, money, and energy goes into this effort, it succeeds only in reducing losses or in returning productive capacity back to where it had been. In other words, it takes this whole effort just to hold our own.

I cannot estimate how much research is required simply to keep production capacity at achieved levels. I know that it takes a great deal. But at the same time, we are constantly striving for—and frequently getting—that extra dividend from our research that results in more efficient farm production.

In those instances where research does lead to increased productive capacity, we are making real progress toward our second important objective—helping farmers balance agricultural production.

BALANCING AGRICULTURAL PRODUCTION

Research that increases production efficiency not only betters a farmer's competitive position, but it offers him more opportunities for making production changes. Certainly, as research brings livestock more into line with crops in terms of production efficiency, more farmers will be inclined to make the shift to a livestock operation. Some of the ways that research can encourage this shift is by developing better grasses and legumes, better pasture and range-management methods, by improved pest control, and by fuller use of fertilizers and irrigation.

Similarly, as new crops such as safflower, sesame, castor beans, and bamboo are improved, these, too, will offer important alternatives to those farmers looking for better paying crops.

As well as encouraging these direct, on-the-farm changes and substitutions, research is successfully developing new uses and new markets for some of our most abundant farm commodities. Let me cite one example.

We are well on our way toward developing economical commercial methods for producing dialdehyde starches from cereal grains. Dialdehyde starches are versatile products that can be a source of plastics, of superior leather tanning agents, and of other valuable industrial chemicals. As industry adapts these new processes and begins to produce dialdehyde starches, it will in effect be permitting our farmers to move in on markets that now use each year 240 million pounds of imported vegetable tannins and 800 million pounds of plastics.

The support of the Congress during this fiscal year has given great impetus to research effort toward increasing production efficiency, and toward developing new crops and new uses for old crops. We in research believe this program holds great promise as a means of improving the balance of agricultural production.

In turn, these gains will strengthen our agricultural future—our third important research objective.

BUILDING NOW FOR THE FUTURE

We must always keep in mind that research takes time. To a large extent, it will be the research that is planned and initiated now that

will benefit farmers in future years. It will be this new research that will enable farmers to produce for a greatly expanded population from essentially the same soil and with the same water resources that are now available.

To meet these needs, we must stop soil deterioration. We must stop wasting water. We must control insects, weeds, and plant and animal diseases. We must breed more productive crops and livestock. Our fruits, vegetables, and meats must fulfill nutritional requirements in both quantity and quality. We must improve fertilizers, machines, and other tools of agricultural production. We must find more uses for products from our farms. We must reduce marketing costs. We must improve farm management and farm living.

In hundreds of ways we must learn to produce and use more from each acre. This is a job for research.

Mr. WHITTEN. Gentlemen, this committe has always supported research. I don't know of any group in the Nation that has a higher regard for you people who do the work in the Department of Agriculture. Nor do I know of any group which believes in the value of research to a greater extent.

I mention that because, in our efforts to see that we get research value for dollars expended, our support of the program is sometimes questioned, in my judgment unfairly, to say the least.

We in the Congress have two places where it is extremely difficult to deal in detail with the programs. One is national defense and the other is research. The minute you mention national defense everybody is for it, even though there may be lots and lots of waste in how it is conducted. In my opinion, in the field of national defense we have wasted lots of money just because we don't look at it as closely as we should. We don't have as much help on the part of the public and others in our efforts to look behind the scenes and see how much real defense we are getting for the dollar spent. Is it 60 cents worth of defense for a dollar, or 75 cents or 85 cents?

Research is also something of an "open sesame" because everybody realizes the need and the value of it.

On some occasions I suspect that we give you money faster than you can use it.

UNOBLIGATED BALANCE

Dr. Shaw, I am pleased to note at the beginning of this fiscal year you had about a million dollars unused and I am advised in the first 2 quarters of the present fiscal year you are running some $400,000 behind in obligations. Some people would criticize you for not spending that money. I would rather commend you, because to me it indicates that you have taken this job seriously, and are setting the job up right. It is necessary you do it that way rather than just committing your money and spending it.

It has been my experience that you and your predecessors have worked very hard to get for the Government a dollar's worth of research for the dollar spent.

My attention is also called to the fact that since 1952, the budget for research in the Department of Agriculture increased 57 percent. That means we can increase the money if we can get the taxes. I know your job is not easy in finding the right kind of people and putting them where they can bring about the maximum result. I

would like for you to describe your general experience in making use of this money, in the determination of what type of people you have to have, and what experience you have had in finding those folks to do the job.

Mr. PETERSON. Mr. Chairman, would you permit one brief observation?

Mr. WHITTEN. We would be glad to hear from you first.

REVIEW OF BUDGET REQUESTS

Mr. PETERSON. We welcome a complete and detailed and careful and critical analysis of the requests we make not only in this budget but other budgets. I think I said when I first came before this committee, this job of building a budget is both a legislative and executive job and we certainly welcome the careful scrutiny that we get.

Secondly, both in research and the other agencies where I have a personal responsibility, it is our purpose not to spend the money you make available unless we honestly believe we can get reasonable value returned for the dollar spent.

Mr. WHITTEN. You enjoy that reputation with this committee, Mr. Peterson; and so does Dr. Shaw. We feel that we are discussing a common problem here when we try to get into these matters.

Mr. ANDERSEN. Mr. Chairman, will you let me express appreciation for your remarks at this point and say that I concur with you in the comments you have made about the work of these gentlemen.

Mr. WHITTEN. I thank my colleague from Minnesota.

RECRUITING SCIENTIFIC PERSONNEL

Dr. SHAW. Mr. Chairman, there is no question that there is an overall shortage of scientific personnel in the country. We do not have enough scientists to do all of the research work that the Nation wants in defense, industry, agriculture, and other places.

We are finding greater difficulty at the present time in attracting competent people than we have had in some years previous.

We are concerned that we are not getting as high a proportion of what you might call the upper 10 percent of graduating classes as we got some years ago. However, in our recruitment of scientists, I have insisted that we employ competent people and that we do not start a project until we get them, even if that means we won't spend any money on that project this fiscal year.

We take the attitude that you and Mr. Peterson both expressed that these budgets are permissive and that we are going to do a capable job before we go ahead.

RECRUITMENT IN FISCAL YEAR 1957

Now, in our actual experience this year we needed 481 full-time professional people on the increases that were granted by the Congress for research. As of December 31, we had employed 270 of those people. In the light of our efforts and those of the Civil Service Commission we anticipate that we will be able to employ competent people from present registers. Our experience runs about like this: We are offering today, three jobs for each person we employ. In other words, from

those that are on the registers and those that we try to get on the registers. Our actual experience in the Agricultural Research Service in this fiscal year has been that we have made 974 offers to hire 331 people. Now, you could desire something better than that, but in the light of the total situation in the country, I don't think that is too bad. I mean that we are still able to get competent people to do the work.

We have taken some recognition of the increasing difficulty in that, as you have observed, our request for an increase this fiscal year is somewhat lower than it was a year ago. This is a reflection of our ability to staff the program.

Mr. WHITTEN. I am glad to have that statement. I speak for myself, but I have been working with the members of this committee so long that I feel my statement reflects their views. It has never been our purpose to penalize any department because it had some money left over. Rather, it is our purpose to commend them, and particularly is that true where you are dealing with skilled people.

We are all familiar with the fact that, under civil service as we have it in our Federal Government, if you get the wrong man you are liable to be stuck with him a long time. I think in a nutshell that is what we are up against, which adds to the care that we must take in employment in the first instance.

Let me say that, by and large, Federal employees are as good as you will find anyplace and civil service is about as good as can be expected. But you want the better man because he is apt to stay on, in one capacity or another.

You might go into more detail on the increases now, if you will.

PROPOSED INCREASES FOR FISCAL YEAR 1958

Dr. SHAW. Our largest increase is in soil and water conservation research. We recognize the importance of the problem and the need to provide more effective information to the Soil Conservation Service and to farmers, themselves, in dealing with the conservation programs on both soil and water. We are asking $1,565,000 for this purpose.

Another major increase that we have in the budget is for production economics. As you will remember in Mr. Peterson's statement, he pointed out that we feel it is very important to step up our ability to follow the farm situation as it is developing, evaluate and analyze the current programs that are available, and be in a position at all times to suggest changes that will be in the interests of farmers.

We need more specific information by the different types of farming areas to evaluate the influence of programs that are in effect as well as those that might be proposed. We feel that there is considerable opportunity for us to furnish valuable information to form the basis of policy development in the Congress and the administration, as well as providing information to farmers on what will be the national effect of specific program changes. The additional amount requested is $835,000.

We have a smaller increase, but still one which is substantial, of $208,000 for work on methods of biological control of insects, and on commodity treatments for agricultural products that are infested with insects to insure safe movement of those products.

We are requesting funds for the staffing of the National Seed Storage Laboratory. Funds for its construction were provided in the appropriation for 1957. The staffing cost is $103,000 annually.

On agricultural engineering research, we are asking for two increases, one for $146,000 for the study of more effective machinery for applying chemicals and fertilizers. We are particularly concerned with developing more effective methods of sprays from airplanes or from ground equipment to get better coverage of crops with smaller amounts of material.

The second increase in agricultural engineering is $104,000 for the development of harvesting methods in relation to new crops.

This past year our crop production people, our breeders and agronomists, have intensified efforts to develop new crops and we have also expanded our chemistry work to determine possible components in new crops that might be used industrially, or have other uses in agriculture. When we get to a stage where a crop looks promising—castor beans is one case in point—we need to have harvesting machinery available that is adapted to harvesting the new crop.

We would expect currently to use the increase on harvesting castor beans, bamboo, sesame, and safflower, crops that look like they are becoming economically potential crops. We would expect with this increase to provide some funds to move in on new crops as they are developed.

One increase of $308,000 in the livestock work is for studying parasites. The problem of parasites is general throughout the country, but it is particularly difficult in the South where the winter temperatures are higher and the parasites can live over. We want to develop more effective methods of controlling them.

An increase of $154,000 is requested for the dairy herd improvement and sire proving plans.

We are also asking for $155,000 for research on farm sheep production. We think there is a possibility of increasing income to farmers by having sheep as an additional farm enterprise, much more than we are realizing in today's agriculture. We also are asking $395,000 for construction at our range sheep and cattle stations.

We are expanding our efforts in utilization, new uses for agricultural products, more than in the other fields. We have a request for an increase of approximately $2 million in total for the development of new uses for agricultural products. Of that increase $770,000 is for work on wheat and other small grains and corn.

Our cereals present one of our most difficult problems of having economic outlets for the acreages we would like to grow and for the production we would like to have on those acres.

We have similar problems, of course, in cotton and we are asking for a fairly substantial increase of $365,000 to find new uses for cotton.

We are also asking for a considerable step-up in our research on wool and mohair. We have had a small program on wool but we feel that there are many opportunities to modify wool by chemical and other processing that will place it on a more favorable competitive basis with synthetic fibers. We have an increase of $400,000 for the operational part of that program and we are asking for $105,000 for

some additional facilities at our Western Utilization Research Laboratory.

We are asking for an increase of $78,000 to follow and publish data on the plant disease situation in the country, both fungus and other diseases, so that we can keep abreast of where the problems are, and be able to advise control people and others as to what the difficulties are. We need to be sure we have fungicides and other measures available to meet the problems as they come up.

We have an additional increase of $260,000 on utilization of linseed oil and cottonseed oil and meal and also an increase of $104,000 for research on animal fats. Our thought is that we should step up utilization research substantially. We are at a stage where there are possible industrial and other uses that can be developed from these sources which would help to stabilize the agricultural situation.

We also have an increase of $181,000 on utilization of fruits and vegetables. We hope to develop processed products of improved quality and stability, and byproducts of greater value.

There are two increases for expansion of home economics research: one of $200,000, on urgent problems of fat in human nutrition, and one of $53,000 on serviceability and maintenance of clothing fabrics.

STATE EXPERIMENT STATIONS

Those are the increases that we have on the research items for the Department.

Under "payments to States, Hawaii, Alaska, and Puerto Rico" we are asking for an increase of $4.5 million to be distributed in accordance with the formulas, to work on many of these same problems I have discussed and also on some others. Twenty percent of the increase on these grant funds, as you know, goes for marketing research at the State experiment stations. There is an additional increase of $250,000 that is required to pay the Post Office Department for the free mailing privileges of the State experiment stations. This covers amounts equivalent to postage on bulletins and other publications reporting results of research.

CONTROL AND REGULATORY INCREASES

We are asking for some increases on our regulatory programs. While we did obtain a substantial increase last year on our plant-quarantine work, $800,000 of that increase was transferred to Customs to permit them to go back to 100 percent baggage inspection. The increase for our own services was $110,300.

We believe that it is essential that we further strengthen the plant-quarantine program to provide for more inspection, particularly at the borders. We are asking for an additional $520,000 for this purpose.

PLANT-PEST CONTROL

For some time, the contingency fund has not represented a true reserve for use in dealing with unexpected emergency situations since the funds have been used for emergency plant pest control programs, sometimes of several years duration. For fiscal year 1958, it is proposed to establish a contingency fund of $1 million which will be a

true reserve to meet unexpected emergencies. We are recommending an increase of $120,000 for evaluation of registered labeling on marketed products to determine compliance with the Federal Food, Drug, and Cosmetic Act, as amended, and $30,000 to construct a greenhouse and headhouse for testing work, under the Federal Insecticide, Fungicide, and Rodenticide Act. Due to the excellent progress made on the khapra beetle and the Mediterranean fruitfly-eradication projects, it has been possible to recommend a decrease of $4,080,000 in funds provided for these 2 programs so that altogether there is a net decrease of $3,930,000 for plant pest control work.

ANIMAL DISEASE CONTROL AND ERADICATION

We have requested an increase of $240,000 to strengthen the diagnosis, control, and eradication of miscellaneous livestock diseases. In some instances, very serious diseases show symptoms which are indistinguishable from less serious diseases. It is essential that an adequate system of diagnosis, eradication, and control of diseases be maintained to prevent incipient outbreaks from becoming serious epidemics.

ANIMAL QUARANTINE

We are requesting an increase of $360,000 for our animal-quarantine work of which $204,000 is for providing greater inspection coverage to establishments producing veterinary biologics and to strengthen the testing of such products, and $156,000 is for constructing animal inspection stations at 4 points on the Canadian border needed to provide facilities for inspection, detention, and humane handling of import animals.

MEAT INSPECTION

An increase of $2,132,000 is requested to meet the needs of the Meat Inspection Service. Three factors entered into this request. The number of plants to be serviced is increasing as well as the numbers of workday shifts. An increase of $1,212,000 has been requested to take care of these additional demands. New meat inspector position standards have been developed and revisions submitted to the Civil Service Commission which will more nearly compare with rates paid by industry. To put these rates into effect, an additional $590,000 is requested. An increase of $330,000 has been requested to meet the cost of providing inspectors with washable outer garments which will protect the meat and meatfood products with which they are working from contamination.

WARNING BY CUSTOMS ON BAGGAGE DECLARATIONS

Mr. WHITTEN. In the fall we had occasion to observe a difference in the notices that Customs gives to passengers coming into the United States. Apparently they have followed the suggestion of this committee in changing that printed form. Has there been enough time since then to see whether you are really having less trouble with people bringing in agricultural commodities?

Dr. SHAW. Would you allow Dr. Clarkson to answer that?

Mr. WHITTEN. Dr. Clarkson——

Dr. CLARKSON. It is our belief that those changes in the use of the Customs form, the changes in the form itself, and the many other things that have been done by Customs and ourselves to better inform travelers of the requirements on plant and animal materials coming into this country have effected some reduction in contraband agricultural products carried by travelers. But we continue to apprehend by inspection a larger amount of contraband products now since the Customs has been able to go back to their full inspection of baggage and passengers.

I have a full report on that which we can file with the committee.

Mr. WHITTEN. I would like to have it at the proper time.

COMPLETION OF RESEARCH PROJECTS

Dr. Shaw, we have discussed in the past how difficult it is to ever finish a research project and move on to another. That is probably because conditions change and new problems in the same field arise from time to time. I think it would be well to put in the record the projects that have been discontinued during the years 1956 and 1957. You might tell us of any particular major projects where you feel you have gotten the answers or can't find the answers and have moved into a more necessary phase of some other problem. Or has this been limited to those isolated projects of a minor nature?

Dr. SHAW. I think it is more of the latter, Mr. Chairman. I will insert a table showing the changes.

(The information requested follows:)

Changes in line projects on file in the central project office, calendar year 1956 with comparisons for calendar years 1954 and 1955

Agency	Active projects beginning of year	Additions			Subtractions				Active projects end of year
		New projects [1]	Revised projects [2]	Total	Completed projects	Suspended or abandoned projects	Superseded projects [3]	Total	
Calendar year 1956:									
Agricultural Research Service	2,046	261	138	399	132	57	164	353	2,092
Agricultural Marketing Service	470	122	131	253	50	19	49	118	605
Farmer Cooperative Service	92	12	7	19	14	6	8	28	[4] 83
Federal Extension Service	174	25	28	53	3	8	29	40	187
Foreign Agricultural Service	12								12
Forest Service	229	3		3	1	1		2	230
Total	3,023	423	304	727	200	91	250	541	3,209
Calendar year 1955	3,209	515	465	980	410	228	528	1,166	3,023
Calendar year 1954 [5]	3,202	323	216	539	205	104	223	532	3,209

[1] Projects concerned with conditions, problems, or approaches not included in previous work of the originating agency.
[2] A restatement and bringing up to date of previously documented work.
[3] Projects whose work has been included in revised project statements.
[4] 32 of these projects are financed with AMS funds.
[5] Adjusted for comparability with calendar years 1955 and 1956.

REVIEW OF RESEARCH IN THE DEPARTMENT

Dr. SHAW. I think you will be interested in this connection that we are currently in the process of making a very thorough review of our research program.

In the way our program is organized and through our advisory committees, we feel that we have good, current reviews of our research program, say, on cotton, or beef cattle, or any particular subject, but I have felt some concern, and I have wanted to know whether all of our programs led to a desirable total objective.

We do work on soils as related to wheat. We do work on wheat breeding. We do work on the utilization of wheat. We do marketing work on wheat. We do human nutrition work on wheat. We want to make sure that all of those programs add up a sensible objective for agriculture.

DEPARTMENT RESEARCH REVIEW COMMITTEE

As a result of that concern I established a committee internally in the Department last March, composed of our top people, our directors of research, in the Agricultural Research Service and the Marketing Service, and the Forest Service, and I gave them this charge: (1) To look ahead to 1960 and to 1975 and determine as well as they could what would be the requirements and what kind of an agriculture we would want to have at those periods of time; (2) in consideration of the kind of a program in agriculture that we would like to have, what would be the research program that would be required to achieve the agriculture that we wanted; (3) to look at our current program and to compare it with this ideal program and then to tell me where our deficiencies were, where we should make curtailments, where we should have expansions, and what we could achieve in the way of balance.

That committee was freed of their other activities for 80 percent of their time and they worked from March until October, when they delivered to me a preliminary draft of their analysis.

REVIEW OF RESEARCH AT STATE EXPERIMENT STATIONS

As you would anticipate, having an analysis simply of the Department's program isn't the whole job because of the interrelated interest of the State experiment stations.

At that stage we took the draft to the experiment station committee on policy. They, in turn, will be reviewing the State experiment station's program in the same way. We are getting together with them on the 19th through the 21st of February to reconcile our 2 views on the character of changes that are needed in our program. We would anticipate that after having such a review we would then want to have the program considered by the users of our information.

DEVELOPMENT OF FUTURE RESEARCH PROGRAM

This would be the farmers and their representatives. We would like to see what they think of our analysis, and finally, probably next summer sometime, we would hope to have something that would look like a good charter as to which way we should develop a program. We

will discuss it thoroughly with each of our advisory committees so that we can develop some agreement among all of us as to where we need to go and where we need to place emphasis.

I think that will be helpful to us in the further development of our program.

I don't expect we are going to find many fields of research that we have underway where we will recommend discontinuance because, as you well know, the problems that are brought to us all the time keep our feet to the fire in using our money on those things that the farmers consider of extreme importance to them. We do attempt to adjust the program as we go along, to move away from anything that is of less importance, to that of more importance.

Mr. WHITTEN. That sounds like it would be of real benefit to the Department. On this committee we are aware every time somebody has a problem he says there ought to be a new project. It's just like every time somebody says he doesn't like something, he says there should be a law. It is always a problem to keep the public aware of what you are already doing, so someone won't try to do something new when the Department itself or an experiment station is already doing it.

Mr. PETERSON. I might observe that all the agencies in the Federal-States relations groups are instructed to make the same kind of analysis. Those reports are beginning to come in, at least in tentative form.

RESEARCH ON ECONOMIC AGRICULTURAL PRODUCTION UNITS

Mr. WHITTEN. That is fine.

I notice one thing you said, Dr. Shaw, was that you were strengthening your economic work so as to be able to advise the Congress in connection with any changes in agricultural policies or programs. Also, many of us on the committee have been interested in what is an economic unit, insofar as a farm is concerned. I can see that with mechanization a larger acreage might be essential to properly support the machinery that is used.

On the other hand I have, in the last year or two, become more and more convinced that much of our agriculture policy is headed in the wrong direction. It looks like our law that we have had since the early thirties, which provides for cutting the American farmer's acreage down, perhaps should have some change. An economic unit would depend largely on the acreage that makes up the money crop of the area, as well as the price at which the product sold.

As I read the basic agricultural act, attempts to regulate world price by the price at which the United States offers its commodities, and attempts to regulate world production by acreage controls in the basic commodities within the United States, are unsatisfactory.

I found evidence of this throughout Europe, when several members of the staff of the Appropriations Committee and I met with many trades people. Their concern was that the United States will eventually dry up production to the point where it will not be a firm source of supply.

European importers want to know that they can buy from us year after year. When a man develops a trade name in a European country, he wants to know where he can get the raw material and get it on a competitive basis each year.

They want to know if we are going to be in the world cotton market in the year 1957, and they also want to know if the United States is going to be an exporter of cotton, on a competitive basis. They want some assurance of that kind. I realize that I should take up these questions with the Secretary, rather than with you.

The point I want to make is this: In any of this work that might come into your research department, I hope you will recognize that an economic unit is not necessarily based on the present acreage on the plot or the present price of the product. I hope you will go further and show what it would be if the acreage were doubled, or if the farmer were permitted to put the land to whatever use he cared to, and give us 2 or 3 price levels that might enter into whether it is an economic unit.

I mention that here, because your purpose prior to making these studies would count a lot in what is included in the answers that you get.

Mr. PETERSON. You are saying that we assume freedom of choice on the part of the farm operators when making that examination, if I follow you.

Mr. WHITTEN. That is right, instead of just making the study based on the restrictions of the present law. I am not trying to limit you to that. But that should be included, along with whatever you consider in connection with what he is allowed to do under the various laws.

Mr. PETERSEN. I have discussed this with Dr. Shaw and with Dr. Johnson from time to time—not in great detail—Mr. Horan indicated some interest in the matter as many others have. It is my understanding that in developing this kind of information at least one basis would be the assumption of freedom of choice on the part of the farmer as to how he used the production resources available to him. I wanted to make sure that was one of the concepts.

FARM INCOME AND PRICES

Mr. WHITTEN. We are all familiar with the facts as I have expressed many times, that farm income is volume times price less cost. A study of the matter will clearly disclose that the price of steel and all the other factors can raise your cost about as fast as you can reduce it through research. So if we can keep cost at a constant level it would be extremely fortunate. If you only increase farm income, it just leaves you price and volume. You almost have to look at it that way, if costs are going to be the same or higher.

ACREAGE CONTROL

Then when we get into the field of volume times price, you get into another situation. Under this attempted acreage control of cotton in the South, they tremendously increased their volume from the same number of acres. But they did it by spending tremendous sums for fertilization, for irrigation and for insecticides.

If you turn the farmer loose to farm his land as he wished to, he would handle your conservation problems to a much greater extent, because he would rotate. He could reduce overhead by planting more acres in what he thought he could sell in the world markets, and then

he might not have to use insecticide every time a shower came up. He could take more risk. His volume may be increased but, under present conditions with limited acreage, that increased volume comes with terrifically heavier cost. I mention all this now because the thoughts and ideas that go into these programs might be worthy of your thought in setting up the methods of study and the answers to be obtained.

Dr. SHAW. We appreciate your comment and I assure you we do have in mind studying the various alternatives that might be used in developing a factual basis for making decisions. I don't want to be critical of anybody, but I think I could get some agreement that decisions are currently having to be made with insufficient facts.

COMPETITIVE SITUATION OF AMERICAN AGRICULTURE IN FOREIGN LANDS

Mr. WHITTEN. I think that is true. I had a man come to me today from one of the large farm organizations and he is very proud of the information which the Foreign Agricultural Service is making available. I believe the title of this particular study was "The Competitive Situation of American Agriculture in Foreign Lands." I was proud to tell him the committee set up money especially for the obtaining of all this information, believing that we cannot handle a United States domestic policy, nor can the Congress write a proper law on agriculture, without knowing what the rest of the world is doing in the same field. I agree with you thoroughly on that score.

ANIMAL DISEASE LABORATORY

Last year we provided funds for the livestock laboratory in Ames, Iowa. What progress have you made?

Dr. SHAW. The site was selected at Ames and the State of Iowa is providing 318 acres of land about 2 miles east of the Ames campus for the laboratory. The construction and development of the detailed plans is being coordinated by the General Services Administration. They have let the contract for the architectural work to the firm of Ralph M. Parsons Co., in Los Angeles. Associated with them is Brooks-Borg, in Des Moines, Iowa, working with them on the plans. It will take some months to finish the detailed plans. We hope that we will be able to let a construction contract some time late this coming fall. It will probably take us about 2 years from the time we let that construction contract until we have the building in operation.

YAZOO-LITTLE TALLAHATCHIE WATERSHED

Mr. WHITTEN. We requested in our report last year that you look into and set up some work in connection with soil work in the Yazoo-Tallahatchie area. At that time you hoped you would be able to set up some unit and have research work in that area. How far have your plans gone on that?

Dr. SHAW. Our plans are proceeding very well. We have our own men in the area and we are having some of the work performed by the Geological Survey, particularly on water measurements and we are also working with the Soil Conservation Service.

LABORATORY FOR SEDIMENTATION RESEARCH

We have proposed in this 1958 budget a $600,000 item to construct a laboratory with some associated field-measurement facilities. The laboratory and headquarters would be at Oxford, Miss., which is in the area. This would provide the means for us to study the rather severe problems in the Yazoo and the Little Tallahatchie area.

I think we are making very good progress. We are spending something on the order of $265,000 this year on research on the Yazoo-Little Tallahatchie watershed and if we can get the proposed laboratory and field equipment associated with it, we think we will be able to move ahead very rapidly on the program.

Mr. WHITTEN. The work you contemplate would be of general value to the whole watershed program?

Dr. SHAW. Yes. We expect that the fundamental findings obtained in this laboratory and on the field plots will have application throughout the Southeast and probably an even larger area.

Mr. WHITTEN. Mr. Marshall.

PROBLEMS RELATED TO MEAT INSPECTION

Mr. MARSHALL. Mr. Secretary, I noticed in your statement you called attention to some of the problems that you are having in meat inspection. Have you any proposals which you are making as to how this matter should be handled?

Mr. PETERSON. Primarily it is a question of enlarging our meat-inspection force in order to accommodate the several new plants that are coming into production and the dispersal of some existing plants. It is generally the enlargement of the demand for Federal meat inspection, partly by competitive forces which is the factor that we have to meet, and the only practicable way of meeting it is to enlarge our force in order to cover the plants that require under the law that inspection if they are moving meat interstate.

Mr. MARSHALL. If I interpret your position correctly, you feel this is quite a problem for you?

Mr. PETERSON. It is a severe problem for us, but more importantly it is a severe problem for the meat packing industry. I think it could be interpreted as having considerable bearing upon the marketing of meats.

Mr. MARSHALL. Have you contemplated any plan whereby the industry might enter into a cost-sharing program?

Mr. PETERSON. No; we have not, because the theory behind this legislation is to protect public health. It is mandatory legislation that the people who engage in interstate commerce in meat must abide by, whether they wish to or not, and we have, therefore, viewed it as a public responsibility.

Mr. MARSHALL. I can't help but note that in the budget we are spending approximately $18,718,000 for meat inspection and for the control of livestock diseases in live animals, $10,385,400. The meat inspection item isn't quite twice as much, but it is getting up there.

Now, the inspection is all done on animals after they have been slaughtered; is that not right?

Mr. PETERSON. There is an ante-mortem inspection also. The animals are clinically examined before the time of slaughter and then are further examined in and during the slaughtering process.

I might observe, as far as disease work is concerned, the Federal expenditure is only a portion, and I think the lesser portion of the total expenditure for disease work. In the regulation of diseases, the police power applied in disease control and eradication work is done almost entirely, except for interstate regulations, by the States. All the State departments of agriculture and State sanitary authorities are carrying on within their own jurisdictions extensive control work on livestock diseases. Not a similar volume of work is being done on meat inspection by the States. Some States do have meat inspection laws. There is a considerable degree of municipal inspection within the respective States.

I think if all the State and Federal efforts were to be added up together it would be found that the volume of expenditure upon animal disease control is in the aggregate substantially greater than that upon meat inspection.

Mr. MARSHALL. Undoubtedly, there are also local items that are added to the inspection costs; are there not?

Mr. PETERSON. As far as I know, the cost of meat inspection in most of the States is defrayed from public appropriations. There are some instances where the industry is required to pay for the inspection service. I believe, although I am not sure, that the bulk of meat inspection performed by State and municipal governments is out of public expenditures.

Mr. MARSHALL. I don't know that my particular comment was understood. I was thinking in terms of the consuming end of the public that, on a State and local basis, in connection with the marketing of meat and the handling of meat, there are also State requirements that have to be met from a sanitation standpoint, and the costs are also added to that end of the figure as well, so that your Federal meat inspection fees are not the only funds spent for the protection of the consumer.

Mr. PETERSON. No, sir.

BENEFITS OF RESEARCH TO CONSUMERS

Mr. MARSHALL. I have listened with a great deal of interest to you, Mr. Secretary, and also to Dr. Shaw. We know you are recognized as an authority on research all over the world. I noticed in Dr. Shaw's statement, and also in your statement, nothing was brought out showing the protection of the consuming public or the benefit to the consuming public that ebbs from research. When we go as a committee before the House in requesting funds for the Department of Agriculture, there are people who look upon this as an appropriation solely for the benefit of the farmer.

This meat inspection item is an item that is almost entirely for the benefit of the consumer of this Nation, as well as, no doubt, many other items in this research end of the budget that can be explained as of benefit to the consumer. I wonder at this time if it would not be of benefit to the farmers of this country, as well as this committee, if it would not be possible to have a statement put in at this time to show the benefit of agricultural research to the consumers of this country.

And, Mr. Chairman, I would like to make the suggestion that a statement similar to what Dr. Shaw has outlined in his prepared statement might be put into the record at this point.

Mr. WHITTEN. I thoroughly agree with you, Mr. Marshall. We would like to have such a report.

(The statement requested follows:)

SUPPLEMENTAL STATEMENT PREPARED BY DR. BYRON T. SHAW, ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE

I have said that the purpose of agricultural research is to help farmers make a profitable living. But the benefits of research as applied by farmers accrue to all.

Under our competitive system of agriculture, the gains made by farmers are quickly shared with those who buy and use farm products. These gains are reflected in prices, better quality, or new commodities.

Our estimates indicate that farmers used about one-fifth less of land, labor, and other resources to produce a unit of farm products in 1955 than in 1940. If farmers had been using the same techniques in 1955 as in 1940 their total costs would have been $5 billion to $6 billion higher. Much of this saving in cost has been passed on to those who buy and use farm products.

Or here's another way to look at it: These research-improved abilities of our farmers to produce have given all of us a guaranteed food supply. In this country food is as close as the corner grocery.

Compare our way of life—our freedom in choosing an occupation, for example—with that of peoples of other nations whose first thoughts must be of providing food. Imagine the state of our Nation if those of us engaged in careers other than farming were compelled to raise our own food for fear that none would be available.

Research has not only given us enough food, it has given us a great variety of foods. It has given us convenient foods. It has given us better foods, both nutritionally and in quality.

"Seasonal" availability of perishable fruits and vegetables is no longer an important consideration for the shopper. Today's homemaker can buy what she wants, when she wants it. She can buy lettuce and cucumbers and radishes in January. Citrus fruits and juices are available every day in the year.

Research has helped bring this about in many ways. Scientists have developed varieties and cultural methods that have made it possible to grow crops that before were uneconomic. They have developed new crops, and have adapted old crops to new areas. They have found ways of harvesting, handling, storing, and transporting these commodities so that they reach the consumer nearly field fresh.

Today's market shelves are lined with prepared foods of all kinds. The meat counter features small, family size turkeys and heavily fleshed broilers. The freezers contain concentrated fruit juices. All of these are products of research. These and other convenient modern foods have drastically cut the time homemakers spend preparing meals; they have aided in releasing many women for careers outside the home.

Our markets today sell more of the foods that are good for us—those that can supply the vitamins, minerals, and proteins that we need. This is no accident. Nutritional studies by agricultural scientists and others have discovered these important constituents and have determined to what extent they exist in various foods. Further, they have found that our daily activities largely determine how much of each of these food values we need. Such research has changed the food habits of all of us. In turn, it has affected the availability of these foods in the market place. Today we're eating more of the protective foods, such as meats, fruits, vegetables, eggs, and milk. Many of our foods are fortified with important vitamins and minerals.

Agricultural research plays an essential role in relation to our food supply. In addition, it provides us with many other benefits. Let me list a few:

Modern chemical insecticides and weed killers have proved as useful around the home as on the farm. The aerosol spray dispenser has been adapted to many consumer uses.

Penicillin, a product of agricultural research and the pharmaceutical industry, is widely available and relatively low in cost. Streptomycin, another antibiotic drug, was discovered as a result of soil-microbe studies.

Dextran, a sugar derivative that during the Korean campaign proved itself a vitally important substitute for blood plasma, is another product of agricultural research.

The current campaign to eradicate brucellosis of dairy cattle from the United States is protecting us from undulant fever.

The development of mosquito- and fly-control measures is guarding our health against such diseases as malaria, yellow fever, typhoid, and dysentery.

The eradiction effort against the Mediterranean fruitfly in Florida—based upon agricultural research—is aimed primarily at protecting the agriculture of southern United States, but it is protecting consumers against wormy fruits and vegetables.

These are a few of the consumer benefits stemming from agriculutral research. I could list many others.

More important, though, these examples show that agricultural research is for all of us. It benefits farmers and consumers alike. In reality, agricultural research is an investment in our Nation's future.

RECENT ACCOMPLISHMENTS OF THE AGRICULTURAL RESEARCH SERVICE

Mr. WHITTEN. Dr. Shaw, we will be glad to have you tell us something of the recent accomplishments of the Agricultural Research Service, as well as research contributions of the States which have been carried on with the Federal grant funds.

Dr. SHAW. We have many examples which we could give you. However, because of the limited time I shall confine the numbers to a few of the more important ones. As we proceed during these hearings each director will discuss other important accomplishments.

First, I should like to insert several examples of research in the field of crops research.

(The matter referred to is as follows:)

HOT WATER TREATMENT IMPROVES GERMINATION OF COTTONSEED

Pima S–1 cottonseed have given growers trouble because they are hard and slow to germinate. It has now been found that they can be made to germinate rapidly if treated in hot water at 75° to 85° C. for 1 to 2 minutes. Essentially all the extra long staple Pima S–1 cottonseed planted on about 40,000 acres in 1956 were treated by this process which was developed by cooperative research in California and perfected through further research in cooperation with industry in Arizona and California. Findings show that only the naturally vigorous and nonhard seed are oversensitive to treatment and even these will be unharmed if the time and temperature of treatment are kept at the minimum required for activiation; also, a wide selection of species, strains and varieties are responsive to treatment. Treated seed may be redried and stored for over a year without loss in benefit. Germination under saline conditions is improved by treatment and improvement is increasingly evident when comparisons of treated and nontreated seed are made at low soil temperatures.

MONOGERM SEED GIVES PROMISE OF COMPLETE MECHANIZATION OF SUGAR-BEET PRODUCTION

Through breeding research, the sugar-beet plant is being fashioned to meet the requirements of mechanized agriculture. Although satisfactory machines have been available for several years for harvesting sugar beets, the multiple-seed characteristic of the beet, which causes 1 to 6 plants to grow in a clump, has prevented mechanized thinning and thus delayed complete mechanization of this crop. Productive single-germ hybrids have now been developed which will give a stand of plants along the row, spaced as required for machine weeding and thinning. This has been hailed as one of the most important advances in sugar-beet improvement. The new monogerm-seed type is being bred into all of the productive, disease-resistant, and locally adapted varieties.

NEW DISEASE-RESISTANT FLUE-CURED TOBACCO RELEASED

In cooperation with the North Carolina Agricultural Experiment Station, we have developed Dixie Bright 244 tobacco, which is highly resistant to fusarium and bacterial wilt and moderately resistant to black shank. It was released to

growers for planting in 1956. It provides a disease-resistant variety for flue-cured production areas affected with these diseases which cause heavy losses to tobacco growers each year. These diseases are soil-borne and in extreme cases prohibit the growing of other than resistant varieties. Field evaluation tests conducted in North Carolina indicate that the new variety possesses certain agronomic superiority over other Dixie Bright varieties. Dixie Bright 244 yielded 20 percent more than Dixie Bright 101 and showed equal or better resistance to black shank. It produces relatively few basal suckers, is a sturdy plant, and grows slightly taller than other flue-cured varieties. In curing quality it is much like the other Dixie Bright series.

INSECTS FOUND TO TRANSMIT VIRUS OF INTERNAL CORK TO SWEETPOTATOES

The first experimental evidence that insects transmit internal cork virus to sweetpotatoes has been obtained in greenhouse experiments. Both the peach aphid and the potato aphid can transmit the cork virus from diseased to healthy sweetpotatoes. The peach aphid also transmits the virus from sweetpotatoes to Scarlett O'Hara morning glory, which is used experimentally to test for presence of the virus, and from diseased to healthy Scarlett O'Hara plants. This definite evidence of such virus transmission is an important advance in our knowledge of the disease and methods needed for its control.

PEACH MOSAIC VECTOR DETERMINED

After 17 years of searching for the carrier of peach mosaic disease, a mite was discovered in the bud scales of peach trees in California in April 1955 which is a carrier of the virus. This mite is so small that it cannot be seen without being magnified at least 20 times. It has been found on certain varieties of American plums in Georgia and Mississippi as well as in mosaic-spread areas in Arizona, New Mexico, Colorado, and California. Transmission was first obtained through transfers of 5 to 50 mites per tree, but a single mite has since transmitted the virus to a small peach tree. Preliminary tests of insecticides indicate that control may be feasible with such materials as sulfur or demeton. If so, it is entirely possible that the incidence of infection of the disease can be reduced to the point where it will no longer be a serious problem.

In the field of farm and land management research, I will mention these examples.

CANAL LININGS REDUCE SEEPAGE LOSSES

Cooperative research with the Utah State Agricultural College and manufacturers of canal lining materials and soil stabilizers shows that seepage losses in canals can be greatly reduced. Field installations of buried plastic membranes carried on at Eden Valley, Wyo., have reduced seepage losses to less than 1 percent of former losses. Similar tests in the same area using soil stabilizers (soil-cement mixtures) reduced seepage losses to about 6 percent of former amounts. Irrigation reservoirs lined with both buried and exposed plastic films have shown that a significant saving in water can be made. Rot tests on buried membrances reveal that the plastic types appear to be superior to asphaltic membranes. The buried films are more efficient and less susceptible to physical damage.. A field test using exposed plastic film to line a catchment basin in an arid rangeland area was not successful.

COSTS OF PACKAGING AND HANDLING APPLES REDUCED

A method using three specialized teams to pick apples has been developed in cooperation with the Michigan Agricultural Experiment Station. This method increases the average rate at which apples can be picked because each crew does a specialized job with equipment that is suited to its work. A ground crew picks all apples that can be reached from the ground without ladders. This crew is followed by a midsection crew using light stepladders or other equipment which enables them to pick the fruit that remains in the tree below a height of about 14 feet. A third crew follows using ladders of sufficient length, or other equipment, to enable them to reach all of the fruit remaining in the tops of the trees. This specialization by crews makes possible an increase in average picking rate of about 1 bushel per hour per worker, results in less bruising of apples, and require less picking equipment.

Based on successful results from another phase of this project, a practice of handling apples in bulk boxes having a capacity of 16 to 20 bushels, with fork-lift equipment, is rapidly coming into use in Michigan. Bulk boxes were developed primarily for handling windfall, cull, and processing apples, but are now being

adapted for use on fresh market fruit. The method reduces labor cost in the orchard about 2.7 cents per bushel. Further, the first cost of a bulk box is less than the first cost of a pallet plus the number of field crates required to handle the same amount of fruit.

PLASTIC COVERS FOR HORIZONTAL SILOS REDUCE SPOILAGE

Experiments with bunker and stack silos show that plastic covers can be used to reduce or eliminate top spoilage on horizontal silos. A neoprene coated nylon fabric cover used on two bunker silos saved an average of 5 pounds of dry matter per square foot of surface when compared with the same silos uncovered or with covers that did not completely exclude air. Vinyl plastics and polyethylene plastics also have been tested. These tests show that plastic covers are adequate, but they must be well sealed, have no breaks, and should be weighted on top with sawdust, chopped weeds, forage, earth, or other material to prevent billowing due to wind.

There are several interesting examples of work in the livestock field.

PERFORMANCE TESTING OF BEEF CATTLE IS INCREASING

There is a steady trend in the beef-cattle industry toward application of the Department's performance testing work. This has been emphasized during the past year by activation of the American Beef Cattle Performance Registry Association; continued growth of performance testing programs in States that organized such programs prior to 1956; initiation of new programs of this type in at least four States during the year; and a rapidly increasing interest in performance testing by established purebred breeders. One of the best known breeders of a popular beef breed has dispersed his herd, which had been developed over a long period of years according to conventional show-ring standards, and has established a new herd which is being bred strictly according to performance testing standards.

DAIRY LACTOMETER DEVELOPED FOR DETERMINING SOLIDS CONTENT OF MILK OF INDIVIDUAL COWS

A specially designed dairy lactometer used for determining the solids content of milk has been modified and adapted for routine use in the analysis of milk of individual cows. The modification makes it possible to use small quantities of milk for the test. The lactometer and accessory equipment are adaptable for use in determining as many as 40 samples of milk simultaneously. This accomplishment will make it possible to introduce total solids analysis of milk of individual cows for field use and in breeding research.

PHENOTHIAZINE-RESISTANT STRAINS OF INTERNAL NEMATODE PARASITES OBSERVED IN SHEEP

Investigations made in a flock of sheep in Kentucky showed that 2 to 4 times more phenothiazine was required to achieve inhibition of larval development and depression of parasite egg counts comparable to that obtained with control or normal strains. These sheep had been maintained continuously on a low-level regimen of periodic drenching and free-choice administration of the drug for 10 years. In specific trials with the common stomach worm of sheep, 4 to 8 times more drug was required to obtain inhibition of larval development comparable to that obtained with normal strains. Although these findings require confirmation, they show the need for a thorough investigation of drug resistance among nematode parasites, a phenomenon not previously encountered.

NEW GUIDE TO GOOD NUTRITION ISSUED

In home-economics research, a bulletin titled "Essentials of an adequate diet" has been prepared to meet the many requests from nutritionists, extension workers, and others engaged in nutrition education for up-to-date and authoritative material to use in nutrition programs. The most recent research on human nutritional needs, nutritive values of foods, and food consumption habits provides the basis of the recommendations. For example, the nutrients most likely to be short in diets in this country were considered, together with the foods that are good sources of these nutrients, in developing the base plan for an adequate diet. Because different kinds of foods can provide the essential nutrients and

because food supplies in this country are ample to provide for considerable freedom of choice, the bulletin presents a point system to show how common foods rate as sources of key nutrients. Using this system, foods within the basic groups can be interchanged to allow for differences in availability of foods, food budgets, food preferences, and so forth, with the assurance that a good diet can still be obtained.

Our utilization research has developed a considerable number of new products from agricultural materials. I will mention only two at this point.

DIALDEHYDE STARCH PRODUCED BY LOW-COST PROCESS FROM CEREAL STARCH

Dialdehyde starch, or periodate oxidized starch, a potential industrial raw material, has been produced from cereal starch by a new low-cost electrolytic process. It requires only small amounts of the expensive oxidizing agent, which can be largely recovered for reuse. Many derived products are possible, depending on the extent of oxidation or degree of secondary chemical modification employed. Slight oxidation gives products similar to starch but having modified paste characteristics of the type used for textile and paper sizing and similar applications. Complete oxidation gives rise to a new product unlike starch. Dialdehyde starch is now being made in lots of several pounds in order to determine the processing data needed to produce it in amounts sufficient for investigation as a source of raw material for the large and rapidly growing plastics industry, for conversion to electrically charged polymers useful as thickening or stabilizing agents, or as a chemical intermediate for the production of commercially valuable aldehydes, alcohols, and hydroxy acids.

DETERGENTS FROM ANIMAL FATS COMMERCIALIZED

The principal use for tallow, which is to make soap, has declined considerably over the past 15 years. Research on chemical reactions to make improved detergents from tallow has now led to pilot-plant production of alphasulfonated tallow acids by one of the large meat packing firms. The alphasulfonated acids are inexpensive intermediates for improved synthetic detergents from tallow. They are also versatile surface-active agents and are advertised for use in ore flotation, emulsion polymerization, as grease and lubricating-oil additives, and as chemical intermediates. This development holds promise for a very significant new market for tallow and reversal of the trend away from fats as the raw materials for detergent manufacture. In our control and regulatory activities, we have met with considerable success in our efforts to eradicate two destructive pests.

KHAPRA BEETLE ERADICATION

The khapra beetle eradication program has made marked progress. During 1956 some 35,000 properties in 34 States were inspected, and more than 10,000 of these were rechecked 2 or more times. No established infestations were found outside of Arizona, California, and New Mexico, where the insect was known to occur at the time the eradication program was undertaken. The fumigation of the 377 infested premises found is progressing satisfactorily and 235 have received treatments.

A survey was made in cooperation with the Mexican Department of Agriculture, in the States of Sonora and Baja California where 478 properties were inspected.

As a result of this survey infestations were found on 33 in the State of Baja California, and 1 in Sonora. The infested storages have a volume of about 8.7 million cubic feet. All of these infestations are within 20 miles of the international line. The Department is cooperating with the Mexican officials in a regulatory and fumigation program designed to effect eradication of these infestations.

MEDITERRANEAN FRUITFLY

An infestation of the Mediterranean fruitfly was found on April 13, 1956, in Florida. Immediate action was taken to eradicate this pest. A previous infestation in Florida was eradicated about 25 years ago. The present outbreak seems to stem from an introduction into Miami in the vicinity of the airport. Upon discovery of this new outbreak, Federal-State forces were quickly coordinated to find out how widespread the infestation had become, to apply control and eradication measures, and to regulate movement of host materials such as fruits and vegetables.

After public hearings, a Federal domestic Medfly quarantine became effective May 16 and under it provision was made for treatments for fruits and vegetables and other host plants to permit safe movement of products. Under limited circumstances certain host materials may move to northern markets. Areas of general infestation have been found in Broward, Dade, Palm Beach, Lee, and Pinellas Counties, and spot infestations of limited intensity in 23 additional counties as far north as Lake County. These spots were air-sprayed with malathion bait spray as often as needed. Eradication has now been accomplished on approximately 732,000 of the 770,000 acres subjected to treatment.

The eradication of the Medfly in 1929–30 relied chiefly on the removal and destruction of host fruits and vegetables in the infested areas. New methods, techniques, and materials have permitted new approaches to the current Medfly situation. A new trap attractant, oil of angelica seed, is proving very effective for adult male flies. A new plastic dry bait trap has been developed and about 40,000 are in use. A malathion bait spray is applied by aircraft in the generally infested areas on a 7 to 10 day schedule. This material has proven so effective in initial tests as to permit its use as a quarantine treatment in conjunction with removal of noncommercial hosts, in limited, closely supervised situations.

PLANT QUARANTINE

During the past year plant-quarantine inspectors intercepted approximately 17,500 lots of destructive plant pests at our borders. These included foreign insects, diseases, and nematodes that could attack virtually every important crop grown in this country. Fruit infested with the Mediterranean fruitfly was intercepted 147 times. Among the other important pests intercepted were the golden nematode, khapra beetle, durra stem borer, citrus blackfly, citrus canker, Irish potato weevils, sweetpotato weevils, avocado weevils, the Mexican, oriental, and West Indian fruitflies, and the melon fly. The European corn borer, an introduced pest, is costing growers each year more than twice the amount that has been spent for foreign-plant quarantine protection since the inception of the program in 1912.

STATE RESEARCH PROGRAMS FINANCED WITH FEDERAL GRANT FUNDS

Dr. SHAW. Finally, I will insert four examples of research at State agricultural experiment stations which have been accomplished with Federal grant funds.

(The matter referred to is as follows:)

IMPROVED FRESH CONCENTRATED MILK DEVELOPED

The Wisconsin station recently announced that it has developed an improved fresh concentrated milk with long-keeping qualities under refrigeration. Upon the addition of 2 parts of water to 1 of the concentrate, the product is reconstituted to an average composition of whole milk.

Through cooperation of dairy scientists and marketing specialists, a supply of the new concentrate developed by the experiment station was distributed among 900 families in 2 Wisconsin cities. Each family was asked to compare the palatibility and convenience of reconstituting the concentrate with the use of fresh milk. Fewer than 25 percent of those using it said they liked the product less than fresh milk; 62 percent said they liked it just as well; and 14 percent said they liked it even better.

In addition to its apparent favorable acceptance by consumers, the new product has the advantage of lower transportation and handling costs than those involved in distributing milk on a fluid basis. For this reason it offers real incentive to development of markets in distant urban areas where fluid milk prices are high. Plans to begin processing of the product on a commercial scale are being launched by a large dairy marketing firm.

SHELL-LESS EGGS MARKETED IN PLASTIC CONTAINERS

In a project contributing to Northeast regional research on egg marketing, a technique has been developed by the New York station at Cornell for merchandising eggs in shell-less form through use of plastic containers. This offers egg handlers and others an opportunity to realize higher returns for eggs that normally are sold at relatively low prices. Eggs packaged in plastic containers are less susceptible to breakage, require about one-fourth less space for storage or

shipping, and weigh 10 to 20 percent less than shell eggs in conventional containers.

This method of packaging makes it possible to market eggs with checked or cracked shells, thin or irregularly shaped shells, or eggs with minor internal defects, which in no way affect the internal quality, at prices commensurate with those of regular grade A eggs. It offers an opportunity to increase the market for pullet or other small eggs, which normally are sold at prices well below their relative value, by packaging two of these small eggs together, thus making an attractive doube yolked egg. This technique also eliminates many of the candling inefficiencies normally encountered in egg marketing by removing the element of human error in determining the internal quality of an egg. It will permit the complete mechanization of egg-grading operations and increase the accuracy, speed, and efficiency of grading.

SOD SEEDING AIDS GRASSLAND PROGRAM

Pioneering in the field of seeding and fertilizing through established sod, the Mississippi station has shown that this operation can be used to improve grass stands. They have developed an improved machine through which the correct amount of plant food can be made available at proper depths and through which more desirable grass species can be introduced into an existing grass-land cover.

The Wyoming station, adopting these principles to dryland grass range conditions, has developed a promising grass and legume seeder and fertilizer. This machine provides an economical and practical method of reseeding for thousands of acres of semiarid western rangeland.

This new equipment may be most valuable in improving grass cover in those areas where wind and water erosion prevent conventional tillage and seeding operations.

ECONOMY SUPPLEMENT PRODUCES GOOD CATTLE GAINS AND FEED SAVINGS

A low-cost protein supplement, recently developed by animal scientists of the Iowa station for use in high corn-fattening rations of beef cattle, shows promise of substantial savings in feed costs. The "economy supplement" has a 28 percent protein equivalent with low-cost urea furnishing practically all of the nitrogen and corncobs making up over 50 percent of the weight. Steers fed the "economy supplement" produced good gains at 7 cents less daily supplement cost per steer than the most efficient supplements used previously. Steers finished to choice grade using the "economy supplement" with shelled corn returned $24.40 per head above feed costs, while steers getting linseed meal as a supplement to corn returned only $9.81.

ADVANTAGES TO FARMERS IN ADOPTING RESEARCH RESULTS

Mr. PETERSON. On the point of consumer benefits from agricultural research, Mr. Marshall, perhaps a judgment appraisal is the only one possible, but a large share of research expenditures quickly transfer themselves into consumer benefits because of the competitive forces within agriculture itself. When a farmer gets a competitive advantage from adopting research results, rather quickly competition forces other farmers to adopt the same practices, with the result that the benefits leave agriculture at that point and move over to the consuming public. I think it is a fair statement to make that the bulk of research, then, expended in this area we are here discussing produces consumer benefits as well as farmer benefits.

QUALITY OF OUR AGRICULTURAL PRODUCTS

Mr. MARSHALL. In addition to what you have said concerning the benefits of the costs chargeable to the consumer, the consumer has certainly had a great amount of benefit from the improved quality of the American farm products.

I had occasion a year or two ago to observe the difference between the products that are produced in one of our neighboring countries as compared with ours. It is almost unbelievable, the difference in the quality of their vegetables compared with the difference in the quality of our vegetables and fruits just across the line.

Mr. PETERSON. Not only is there a marked difference in quality, but a marked difference in the dietary level of food intake of the American people as compared with most other countries, and I think it is fair to state research has made a major contribution to the upgrading of the American diet.

DEVELOPMENT OF NEW CROPS

Mr. MARSHALL. I was interested in Dr. Shaw's statement concerning the balancing of agricultural production. Out in our section of the country this crop, comparatively unknown to us a few years ago, soybeans, has meant a large acreage could be devoted to the production of that crop which is a boon to the income in our area.

I note that you have listed four crops that you are referring to as new crops: safflower, sesame, castor beans, and bamboo. Have you made any estimate of the amount of acreage that might be devoted to either of these crops? Is there a possibility that these crops might reach the production, for example, that soybeans has attained?

SAFFLOWER

Dr. SHAW. We have not made a definite estimate of what acres could be used, but in the case of safflower, the plants that we now have are mainly adapted to areas that have dry harvesting seasons, which would mean pretty much the western area of the United States.

We think, from the standpoint of the quality of the oil in safflower, that it has many promising industrial possibilities, as well as food possibilities, and that it could well become as important in the agriculture of the western area of the United States as soybeans has been in the midwestern area of the United States.

BAMBOO

Our current information on bamboo would indicate that it could be grown pretty much over all of the southeastern United States. We anticipate that bamboo could be a substitute for pulp—I mean, to add to our pulp supply—and that it could be an alternative crop to cotton or peanuts and various and sundry other crops and become of economic importance in the South.

We have our first large-scale experiment with bamboo going on this year. We planted a large field of bamboo, and we expect to learn the harvesting and other procedures there.

CASTOR BEANS

For castor beans, we estimate that the acreage would currently be limited to something of the order of a few hundred thousand acres. Again, the oil from castor beans has qualities that would appear to make it something that we could exploit industrially, and if we can

develop further industrial uses for it, much greater acreage than that would be needed.

SESAME

Sesame is grown more in the southern area, Texas and through there. It has potentials, also, as as an oil crop. It will have some competition with soybean oil and cottonseed oil, but again the things we are looking for in the oil crops are oil characteristics that adapt them to the chemical industry—something that we can modify to perform a function that is now being performed by such things as petroleum derivatives and other nonagricultural products. So we do have quite a bit of hope for these. Large acreages of these new crops are not going to be here tomorrow, but it took us a long while to develop large acreages of soybeans, too. We think it is worth while to continue pushing these new crops.

Mr. MARSHALL. Did I understand you to say that most of these would be crops substituting for some other crop for domestic purposes, or do you anticipate an export transaction in soybeans?

Dr. SHAW. We could have export trade, too. We have been looking at two primary angles: (1) With crops that we now import we have been seeking to determine the possibilities for growing them ourselves or finding substitute crops that will grow here; and (2) we have been looking at potential industrial markets that are now using things other than agricultural raw materials for their source of supply, and where we can come in with agricultural products and compete in those markets.

Now, as you know, ordinarily in agriculture products, food is the highest paying use, then feed, and then industrial uses, so when competing in the industrial market we have to have some particularly special properties, and it is for these special properties that we are looking.

LINSEED OIL

Mr. MARSHALL. In our area we are very much interested in linseed oil. Would you anticipate some of these oil crops would replace linseed oil?

Dr. SHAW. What we want to do with linseed oil is expand its use. One of our increases in this year's budget is for about $200,000 to develop further uses for linseed oil and to stimulate its use. We feel there are possibilities not only of winning back some of the market linseed oil has had, but actually of expanding it. That is our hope, so we would not be trying to push it out. We think in fact that we can expand its market.

RESEARCH CONTRACT TO STUDY DAIRY FARM BUILDING LAYOUT

Mr. MARSHALL. Mr. Secretary, a few years ago you were before our committee and pointed out to us on a contract basis you had entered into a contract with the Doane Agricultural Service for a survey they were going to make on the utilization and location of farm buildings. What was the result of that?

Mr. PETERSON. Was that the survey they made in connection with the St. Louis milkshed, on the cost of dairy buildings?

Mr. MARSHALL. I believe so. I know we spent a considerable sum of money on that.

Mr. PETERSON. I don't have those details before me, Mr. Marshall.

Mr. MARSHALL. I have made some requests from some of our experiment station people, and they haven't heard about the results of that survey.

Mr. PETERSON. The results were widely published, Mr. Marshall. I am sure if they don't have them it must be oversight, because I recall seeing a number of published results myself.

Mr. MARSHALL. Is it in pamphlet form?

Mr. PETERSON. I am of the opinion it was.

Dr. SHAW. Dr. Johnson is here.

Mr. MARSHALL. Would you send me a copy of the sample results?

Mr. PETERSON. Yes.

Mr. MARSHALL. I would be glad to have them.

Dr. JOHNSON. We will be happy to bring up copies of the report now published. There is a final report on that that is in press, and I will see that you get a copy as soon as it comes off the press.

(The information requested by Mr. Marshall is as follows:)

Following is a summary of the results of the final report entitled "Economies in Farm Dairy Buildings and Equipment and Relation to Sanitary Quality of Milk," Agriculture Information Bulletin No. 153, which is now in press and will be available shortly:

"The studies reported here were conducted over a 3-year period on 15 farms in the St. Louis milkshed. They show that with good sanitation practices, milk of high sanitary quality can be produced with half the labor and half the investment in buildings and equipment commonly found on dairy farms in the area.

"With good sanitation and cooling, 91 percent of the milk samples from test farms had bacterial counts within acceptable limits for grade A milk for fluid consumption. These limits are recommended by the American Public Health Association. Eighty-three percent of the samples from four farms included in the project, from which milk was accepted as grade A by the St. Louis public health authorities, tested within the acceptable limits.

"When dairy buildings were constructed or remodeled and equipment was installed to provide for 20 to 25 cows, the average investment cost per cow at 1950 prices was about $212. On existing dairy farms, with 20 to 25 cows, dairy buildings and equipment were valued at about $517 per cow at 1950 prices.

"On farms where dairy buildings were constructed or remodeled and equipment was installed to provide for 20 to 25 cows, dairy chores took about 67 man-hours per cow per year. On existing dairy farms with 20 to 25 cows, dairy chores took about 119 man-hours per cow per year."

Mr. WHITTEN. Mr. Natcher.

Mr. NATCHER. Agriculture research means more to the American farmer today than it ever has. Mr. Chairman, I want to join with you in your general observation concerning the fine work that these gentlemen have accomplished and are accomplishing, and this also pertains to the work that has been accomplished throughout the last 20 years in this particular service.

TOBACCO RESEARCH

Dr. Shaw, I was particularly interested in some of the new fields of research that you pointed out to the committee. I am just wondering, since there has been such a rapid quality change in the use of tobacco at the present time, if any additional study is being made now concerning tobacco.

Dr. SHAW. We had an increase in 1957, this current year's appropriation, for some further utilization studies on tobacco. You may recall that we got down to a point where we were hardly spending anything on utilization studies on tobacco, but we did get a small increase in the 1957 budget, and that is being activated currently at our Philadelphia laboratory. We had an increase, also for research, on tobacco diseases and for tobacco breeding work that we are implementing. We are not requesting further increases in this year's budget for tobacco research.

Mr. NATCHER. Dr. Shaw, considering the quality changes in the use of tobacco that have taken place today, don't you think it would be right important to not only continue your studies as far as tobacco is concerned but start new studies. Tobacco pays its way in taxes and is one of the major crops of my home State.

Dr. SHAW. Well, certainly we had felt that there was need for more work in this area and that was the occasion for our increases in the 1957 budget. Our normal attitude on research which we have obtained increases in 1 year is that we will get that implemented and see how far we can get along in subsequent years with such funds before we come up and ask for further increases. But, I agree with you there is a need for more work. We recognize it, and are trying to move ahead on it.

Mr. NATCHER. As you well know, Dr. Shaw, the types of tobacco that are bringing the best money now certainly did not bring this kind of money 3 or 4 years ago. There has been quite a change in the overall tobacco picture.

EMPLOYMENT UNDER PROPOSED INCREASES

I see here, Mr. Secretary, that there will be an increase of some 597 employees. Do you have a breakdown on that figure?

Mr. PETERSON. I am sure we do have.

Dr. SHAW. We do have, Mr. Chairman.

Mr. NATCHER. To save time, would you insert a little chart in the record at this point, showing the breakdown as to the 597.

Dr. SHAW. Yes, sir, we will.

(The information requested by Mr. Natcher is as follows:)

The estimated increase of 597 in employment, June 30, 1958, compared with June 30, 1957, is distributed as follows:

Research	+473
Plant and animal disease and pest control	−26
Meat inspection	+150
	+597

TOTAL BUDGET REQUEST FOR AGRICULTURAL RESEARCH SERVICE

Mr. NATCHER. Mr. Secretary, the overall amount requested for this particular service, I believe for 1958, is $140,473,708. There is a decrease which is brought about, of course, as a result of the $16,250,000 difference in the animal disease laboratory facilities; that is correct, is it not?

Dr. SHAW. Yes, sir,

Mr. PETERSON. The decreases are nonrecurring items. That is the principal one.

PAYMENTS TO STATE AGRICULTURAL EXPERIMENT STATIONS

Mr. NATCHER. Dr. Shaw, you pointed out some $4.5 million additional is to be paid to the States and I believe you said 20 percent of that is to be used for additional marketing research.

Dr. SHAW. Yes, sir.

Mr. NATCHER. What other uses will be made, Dr. Shaw, of the balance of the $4.5 million?

Dr. SHAW. It will be in most fields of agriculture—Dr. Elting probably has a table here to indicate the distribution as between livestock and crops, entomology, plant diseases, soils, agricultural engineering, agricultural economics and so on. Some projects in some States will be on livestock diseases. In other States they will be on plant diseases and plant breeding. Some will be on agricultural economics and some on engineering.

Mr. NATCHER. In other words, it is according to need and necessity, as to the State and the location; is that correct?

Dr. SHAW. That is correct, sir.

The directors of the experiment stations have recommended the particular projects that would be implemented.

Dr. ELTING. That is on page 165 of the justifications where a table is shown.

Mr. NATCHER. Other than marketing research, what is the next largest item?

Dr. ELTING. Animal production, including animal diseases will take up another 20 percent. In addition to that, plant disease and insects, 9 percent, grass and forage crops, 5½ percent, other field crops about 5 percent, horticulture and forest crops, 8 percent, water use and conservation, 7½ percent, soils and fertilizers about 7 percent, farm mechanization studies, about 6 percent, economics of production, 7 percent, and foods, human nutrition, and home economics, about 5½ percent.

Mr. NATCHER. Thank you very much.

Gentlemen, I do want to say again that I think you are doing a fine job. If we spend more on research in this country and accomplish a little more, and spend less on foreign agriculture we will be better off. The American farmer will receive more help during this price-cost squeeze.

Thank you, Mr. Chairman.

CONTRACT RESEARCH

Mr. WHITTEN. Before we pass on, I would like, Dr. Shaw, to ask you if you would list the various contracts that you have for research work, the name of the person, firm or college with whom the contract exists, the amount of money, and how many years it has been in existence.

Dr. SHAW. Yes, sir.

(The information requested is as follows:)

AGRICULTURAL RESEARCH SERVICE

There follows a list of the contracts made in calendar year 1956. This list supplements the data on contract research shown on pages 326–327 of the House hearings on Department of Agriculture appropriations for 1957 (pt. 2).

Contractor	Amount	Date and period	Description of research
American Institute of Baking, 400 East Ontario St., Chicago 11, Ill.	$25,055	February 1956, 3 years.	Determination of changes in eating quality, temperature, and moisture content of bakery products other than bread and cake during freezing, defrosting, and frozen storage under varied conditions commonly available for commercial use.
American Meat Institute Foundation, 939 East 57th St., Chicago 37, Ill.	62,000	June 1956, 2½ years.	Studies on the high temperature aging to increase tenderness of lower grades of beef.
Beet Sugar Development Foundation, Fort Collins, Colo.	19,558	July 1956, 1½ years.	Study of the incidence of nematodes in sugar-beet production.
University of California, Berkeley, Calif.	23,606	July 1956, 3 years..	Research on dehydration and processing of prunes and control of spoilage in packed prunes.
Agricultural Experiment Station of Virginia Polytechnic Institute, Blacksburg, Va.	11,988	January 1956, 2½ years.	Research on the composition of cooked garbage and its nutritive value as a swine feed.
University of Connecticut, Storrs Agricultural Experiment Station, Storrs, Conn.	6,800	February 1956, 2 years.	Investigations on the value of dehydrated alfalfa as a source of tocopherol for dairy calves.
Fabric Research Laboratories, Inc., Dedham, Mass.	35,433	November 1956, 3 years.	Research to improve the tear strength of cotton fabrics with emphasis on fabrics intended for resin treatment.
University of Illinois, Urbana, Ill.	100,000	August 1956, 4 years.	Conversion of agricultural products to synthetic rubberlike and other polymeric materials; polymerization and copolymerization of selected monomers derived from cereal grains, oilseeds, animal fats, sugarcane, and naval stores.
University of Idaho, Moscow, Idaho.	24,582	May 1956, 3½ years.	Determination of relationship of pectic and other intercellular cementing substances to the textural qualities of potatoes.
Iowa State College of Agriculture and Mechanical Arts, Ames, Iowa.	60,000	October 1956, 3½ years.	Research on muscular-disease complex of cattle to develop knowledge on the component causes, prevention and control.
Do	9,990	August 1956, 3 years.	Research on statistical methodology for the analysis and interpretation of data from similar but not identical tillage-machinery experiments.
Kansas State College of Agriculture and Applied Science Agricultural Experiment Station, Manhattan, Kans.	34,730	February 1956, 3 years.	New and improved methods of flour milling by separating the bran and germ from the endosperm fraction of wheat before it is ground.
Louisiana State University and Agricultural and Mechanical College, Baton Rouge, La.	21,803	December 1956, 2 years.	Determination of relation of milling efficiency to composition and quality of sugarcane to increase recovery of sugar and reduce processing costs.
Maricopa Seed Farms, Route 3, Box 900, Bakersfield, Calif	24,192	March 1956, 2½ years.	Production of hybrid alfalfa seed from various experimental combinations of alfalfa.
University of Maryland Agricultural Experiment Station, College Park, Md.	29,051	February 1956, 3 years.	Improvement in quality of canned apple slices and sauce through studies of preprocessing treatments and chemical constituents.
Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, Mass.	21,632	April 1956, 1½ years.	Research to study the influence (1) of high-energy irradiation of cotton on its useful properties and on subsequent typical chemical modification and additive treatments, and (2) of high-energy radiation as an activation agent on typical chemical treatments and modifications to develop new and valuable textile products.
Midwest Research Institute, Kansas City, Mo.	46,088	November 1956, 2 years.	Comprehensive basic investigation of micro-organisms that have potential value as Salmonella antagonists and as glucose fermenters in egg white.
University of Minnesota, Minneapolis, Minn.	5,022	December 1956, 2½ years.	Research to identify the nature of the debilitating effect produced in insect pests subjected to cold during the egg stage.
Do	14,677	August 1956, 3 years.	Investigation of the metabolic response of young women to a reference diet.

See footnotes at end of table.

Contractor	Amount	Date and period	Description of research
University of Minnesota (Hormel Institute), Minneapolis, Minn.	21,560	March 1956, 3 years.	Isolation and characterization of colored substances from films of yellowed protective coatings containing linseed oil.
University of Missouri, Columbia, Mo.	30,000	January 1956, 3½ years.	Studies on the improvement of the nutritive value of low-protein and high-fiber farm forages and roughages by fermentation with micro-organisms from the rumen.
W. K. Moseley Laboratory, Indianapolis, Ind.	21,942	October 1956, 3½ years.	Study of the causes of failure of lactic-acid-forming bacterial starters to form the required amount of acid in cheese curd.
National Analysts, Inc., Philadelphia, Pa.	[1] 4,850	October 1956, 2 months.	Tables for reports of dietary levels of households in the United States, from data from a survey of food consumption of households in the United States, spring 1955.
National Analysts, Inc., 1015 Chestnut St., Philadelphia 7, Pa.	[2] 50,791	January 1956, 9 months.	Tabulating and otherwise processing data from a survey of food consumption of households in the United States, spring 1955.
Agricultural Experiment Station of the University of Nebraska, Lincoln, Nebr.	16,612	January 1956, 3 years.	Investigation of the metabolic response of young women to a reference diet.
Do	22,195	do	Studies on the contribution of alpha-amylase to the conversion of raw or ungelantinized starch to sugars by extracts from wheat and barley malts and other typical sources of alpha-amylase.
North Carolina State College of Agriculture and Engineering of the University of North Carolina, Raleigh, N. C.	7,500	December 1956, 3 years.	The development and preparation of a catalog of the Homoptera, *Jassoidea* (leafhoppers).
North Carolina State College of Agriculture and Engineering of the University of North Carolina, School of Textiles, Raleigh, N. C.	25,040	December 1956, 2½ years.	Research on chemical-mechanical means to improve the durable smoothness of cotton fabrics for uses such as in apparel.
Manhattan College, Riverdale 71, New York City.	22,668	April 1956, 2½ years.	Study of fruit and vegetable processing waste disposal methods in the eastern region.
Oregon State College, Agricultural Experiment Station, Eugene, Oreg.	22,204	June 1956, 4 years	Research on determination of the acid-extractable pentosan content in relation to milling quality of wheats of widely varied types and parentage grown in the Pacific Northwest.
Philadelphia College of Pharmacy and Science, Philadelphia, Pa.	10,260	July 1956, 2½ years.	Development of new outlets for surplus honey through studies of its use in pharmaceutical formulations.
Remington Rand-Univac Division of Sperry Rand Corp., 1615 L St. NW., Washington, D. C.	2,800	October 1956, 6 months.	Determination of optimum farm organizations for 36 typical farm situations in the Sandy irrigation area of the North Platte Valley, Nebr.
Southwest Research Institute, San Antonio, Tex.	30,940	November 1956, 2½ years.	Investigation of selected catalysts to develop methods and conditions for the conversion, through selective hydrogenation, of linolenic acid into an acid or acids of greater stability.
Texas Agricultural Experiment Station, College Station, Tex.	[1] 3,000	January 1956, 11 months.	Additional tests and data on carcasses of beef developed under "research on feeding as a means of improving the quality of cow beef."
Do	10,000	May 1956, 2½ years.	A study of the biochemistry of the oxidative enzymes of the boll weevil.
Texas Engineering Experiment Station, College Station, Tex.	5,040	March 1956, 2 years.	Investigations on droplet formation in relation to aerial application of herbicides.
Textile Research Institute, Post Office Box 625, Princeton, N. J.	24,582	March 1956, 2½ years.	Correlation of the single fiber properties of isolated collagen fibers with the 2-dimensional fabric properties of leather looking to the establishment of better objective criteria for evaluating leather products.
Tulane University of Louisiana, New Orleans, La.	3,021	October 1956, 1½ years.	Determination of tryptophan and of niacin derivatives in urine.
Utah Agricultural Experiment Station, Logan, Utah.	[1] 6,450	September 1956, 8 months.	Extends investigation on lima beans grown during 1956 harvest season to determine means of improving the quality of frozen and other process lima bean products through improvement in methods of selecting raw lima beans.
Utah State Agricultural College, Logan Utah.	[1] 6,390	March 1956, 1½ years.	Chemical analyses to establish the amount of raffinose and galactinol in individual sugar beets for investigation of processing qualities of sugar beets.

See footnotes at end of table.

Contractor	Amount	Date and period	Description of research
Institute of Paper Chemistry, Appleton, Wis.	29,000	July 1956, 2 years..	Evaluation of periodate oxidized corn and wheat starches for application in paper-making processes.
University of Wisconsin, Madison 6, Wis.	13,687	March 1956, 2½ years.	Study of the determination of the effectiveness of spray irrigation as a method for the disposal of dairy plant wastes.
University of Wisconsin Agricultural Experiment Station, 171 Bascom Hall, Madison 6, Wis.	24,480	April 1956, 3½ years.	Research on the incidence of lymphomatosis in chickens as affected by the use of unstable cod liver oil in the diet.
University of Wyoming (Agricultural Experiment Station and Natural Resources Research Institute), Laramie, Wyo.	27,227	February 1956, 3 years.	Study of the chemical composition of wool with regard to minor elements in relation to the origin of the wool, commercial values and fundamental properties.

[1] Supplement to existing contract.
[2] Supplement to existing contract (Agricultural Marketing Service participation).

Mr. WHITTEN. Mr. Andersen.

Mr. ANDERSEN. First, Mr. Chairman, I want to say this: I feel the statements given to us by Secretary Peterson and Dr. Shaw relative to the general field of research and agriculture are two of the most enlightening statements I have seen, I might say, during the many years that both you and I have spent upon this subcommittee.

Mr. Peterson's statement shows that finally—and I think I will have to agree with him—we are on the way. By that, I mean you people have been handicapped through the past years by not having available the facilities needed in many fields.

Again, I repeat we are finally on the way to getting some of those established. Gradually, yes, but that is the way we want to do it.

SOIL AND WATER RESEARCH PROBLEMS

One point, gentlemen, that permeates both the statement of Secretary Peterson and the statement of Dr. Shaw, is the absolute need that we have for soils and water research. I think you have hit, gentlemen, upon what is one of the great problems facing this country today, the superabundance of water in some places and the lack of it in others.

There is an urgent need for studying into the various things having to do with the effects of water, for the good of the American people in future generations to come, because if we don't do something, if we don't learn how to conserve water, if we don't learn how to do the things we should do with it, we may end up finding ourselves not having sufficient of that most precious commodity in this great Nation of ours sometime in the not-too-distant future.

I have noticed during the years that I have spent in the neighborhood of my farm in southwestern Minnesota, how gradually we are becoming more and more concerned about the possibility of not receiving sufficient rainfall to secure an average good crop. It seems that it is hitting us a little bit more frequently than formerly.

I don't like to admit that western Minnesota is becoming part of the semiarid region. We never assumed it to be such previously, but it does indicate that this great region of drought, Doctor, is gradually spreading from the Great Plains States on into the central belt.

I want to make a statement here if I may, Mr. Chairman, relative to this specific problem of soil and water research.

Dr. Shaw, I have often said that the other offices and services of the Department deal with current farm problems, but in the final analysis it is your service that looks into the future. There is no better example of that than your research on soil and water problems.

Aside from the economic problem which is, in my opinion, the number one problem in American agriculture, the next two most difficult and important problems have to do with soil and water. With the soil bank and other conservation programs, with the watersheds and flood control, concerning which our chairman has been the leader in Congress toward trying to determine what is the best thing to do, we are spending literally hundreds of millions of dollars each year on some sort of soil programs.

Farm people are spending even more of their own funds. This is also true of water, and in addition to that we have all of these drought problems.

These problems of soil and water conservation cannot be solved this year or the next. They won't all be solved in the next decade, gentlemen. Long after we have met the big economic problems, we will still be working on our soil and water problems.

Because conservation is a continuous, long-range operation, we must recognize that research is probably more vital in this field than in any other. Maybe we are more conscious of that in my part of the country because of the almost total lack of information on our major soil types—and I refer to the five States in the upper Midwest.

SOIL AND WATER RESEARCH FACILITY

We urgently need more such information, and only research can provide it. That is why, Dr. Shaw, I was so favorably impressed with your testimony at Morris, Minn., last September 24, relative to plans for a soil and water research facility to be established there in cooperation with the University of Minnesota.

I might say that the subcommittee hearing there was very ably chairmaned by Mr. Marshall of Minnesota.

Mr. MARSHALL. I would like to thank my colleague for that, and I would also like to say that I did not anticipate the amount of interest that there would be in that project out there until we were out at Morris. The comment that we have heard since around through that area has indicated to me that there is a great need, and I would like to assure my colleague that because of his interest and the interest of the people in that area that I hope it won't be too long before that plan will be consummated and a laboratory will be put in there. In my estimation, I know of no place in that whole area that would be of more benefit to that area than the problems that they have of soil and water conservation and the studies they could make in that particular area.

Mr. ANDERSEN. Thank you, Mr. Marshall.

You will recall that basically you and I had fostered that location, first of all because it was a subsidiary of the University of Minnesota, and secondly because it was in a position to give us the answers to many problems that had arisen as a result of the establishment of the pilot plant watersheds.

One such large watershed is in that immediate region.

Mr. MARSHALL. That is correct.

Mr. ANDERSEN. Now, Dr. Shaw, I have a copy of your excellent statement made at Morris on September 24. May I ask, does not the substance of that statement reflect your general thinking on the soil and water problems of that area?

Dr. SHAW. Yes, sir.

Mr. ANDERSEN. Now, Mr. Chairman, because this statement is pertinent to our present hearings, permission is requested to insert Dr. Shaw's statement of last September 24 at Morris, Minn., into the record at this point.

Mr. WHITTEN. That may be done.

(The statement is as follows:)

STATEMENT OF B. T. SHAW, ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE, BEFORE THE HOUSE SUBCOMMITTEE ON APPROPRIATIONS FOR THE DEPARTMENT OF AGRICULTURE AND RELATED AGENCIES

(Hearing held at Morris, Minn., September 24, 1956, concerning a proposal for a regional soil and water conservation research facility at Morris, Minn.)

Mr. Chairman and gentlemen of the subcommittee, as you have requested, accompanying me are Dr. Cecil H. Wadleigh, Chief of our Soil and Water Conservation Research Branch, and his associates, Dr. Lewis B. Nelson, and Dr. C. A. Van Doren.

GENERAL

The Agricultural Research Service of the United States Department of Agriculture is giving consideration to the soil and water problems that prevail on the kinds of soils covering a large part of western Minnesota and adjacent States. We are taking a critical look at the specific problems on these soils that should be carefully studied through field and laboratory research. Also, we are appraising the value to the agriculture of the region that may accrue from resolving these soil and water problems by sound research information. Further, we are making an evaluation of the kind of facilities and personnel needed to do the job, if it is determined that a major field station be set up.

AREA TO BE SERVED

First, I would like to cover the area which the research station would be expected to serve. Our preliminary estimate indicates that a total of about 38 million acres would be directly benefited by the research findings of the proposed field station.

This would include approximately 15 million acres of land of the Barnes-Aasted soil association located in western Minnesota, northeast South Dakota, and eastern North Dakota. The Barnes-Aasted soils are developed on limey glacial tills under grass vegetation. The topography of this area varies from level to strongly rolling, with many areas of short irregular slopes. A large proportion of the area is under intensive cultivation.

In the Minnesota portion of the Barnes-Aasted area, it is estimated that water and wind erosion have removed from one-fourth to one-half of the topsoil on about 50 percent of the area. On another 25 percent of the area, better water management is needed for maximum crop production.

The station would serve also the Fargo-Bearden soil association which is located in the Red River Valley of western Minnesota and eastern North Dakota, and totals about 4½ million acres. These soils are developed from medium and fine-textured lake sediment under grass vegetation. Nearly all of these soils are cultivated and devoted principally to important cash crops.

On the Fargo-Bearden soils, drainage is a problem on about 80 percent of the cropland. Severe flood problems occur along the Red River and its principal tributaries. It is also estimated that about 20 percent of the soil of the area contains excess salts which contribute in varying degrees to tillage problems. Wind erosion becomes a serious problem during any prolonged dry period. Estimates indicate that about 20 percent of the area would be benefited by wind strip cropping.

Several adjoining soil associations of the region have closely related agricultural problems. Many of the findings at the proposed field station would

have application to 15 million acres of Clarion-Nicollet-Webster soil in south-central Minnesota and north-central Iowa; to 2 million acres of Moody-Kranzberg-Vienna soils in southwest Minnesota, northwest Iowa, and southeast South Dakota; and to about 1 million acres of Waukon-Barnes soils in northwest Minnesota.

SOIL AND WATER PROBLEMS OF AREA

Now, let us consider briefly some of the soil and water problems of the area.

The Soil Conservation Service has indicated in their annual soil and water conservation needs report that they do not have adequate research information for the area which would permit them to recommend soil and water conservation practices.

Soil moisture management probably is the biggest problem. It involves not only getting better moisture conservation on the rolling upland soils, but also removing excess moisture from cultivated flatlands during periods of high rainfall. Farmers of the area, the Soil Conservation Service technicians, and other agricultural authorities tell us that both are very urgent problems. Water conservation and drainage must be accomplished without injury to wildlife areas.

Moisture conservation is important because rainfall over much of the area is not plentiful. For example, the annual rainfall here at Morris averages only 23 inches. On the steeper lands, much of this is lost as runoff, along with a lot of valuable topsoil. Ways need to be devised and tested which will insure that more rainfall goes into the soil.

Information is needed on the water intake rates and water storage capacities of the major soils; the effectiveness of various conservation practices such as mulch tillage, contouring, etc., in reducing soil and water losses; the water needs of crops and the moisture extraction pattern of crops; possibilities of using water from the numerous ponds for irrigation during critical periods; grassed waterways; erosion control structures; and on many other problems.

Drainage of cropland is another important problem not only in the Barnes-Aasted and Fargo-Bearden areas but also on the Clarion-Nicollet-Webster soils. Research information is needed before efficient and well-designed drainage systems can be installed. It should include determination of infiltration rates, permeability rates and drawdown curves. Once such information is at hand, efficient surface and subsurface drainage systems could be designed and tested.

Research also is needed to develop improved and more economical tillage, cultivation, and rotation practices. These practices should be tailored to the specific soils, crop, and climatic requirements existing in the area.

Runoff studies from typical small tributary watersheds up to 50 square miles in size have been listed as items of high priority in the needs of the Soil Conservation Service. Data on peak flows and water yields from watersheds of 400 acres or larger in southeastern and southwestern Minnesota are needed by the Soil Conservation Service in authorized watershed programs. Farm planners often encounter large drainage areas where specifications for waterways and ditches seem to require sizes that are larger than experience indicates is necessary. In short, more accurate data concerning runoff on larger watersheds are needed.

Undoubtedly I have not touched upon all of the pressing research problems, but I am sure you can visualize somewhat the need for a soil and water research program in the area.

BENEFITS OF RESEARCH PROGRAM

What would be the long-term benefits of such a research program? I believe we can best illustrate this by one example. Tillage research may well show that we can simplify the tillage operations. If we conservatively estimate that we can save $1 per acre for each secondary tillage operation that is eliminated on the row and grain crops, this would amount to an annual savings to the farmers of the area of roughly $60 million.

Even greater benefits probably would result if we can save or otherwise utilize even 25 percent of the rainfall now lost through runoff or evaporation. A sound drainage program also would save the farmers of the area millions of dollars during wet years.

We have given only preliminary consideration to the kind of facilities, equipment, and personnel which would be required at this proposed research station. However, we believe a well-equipped, well-staffed central field station in the Barnes-Aasted area plus outlying research fields in other soil areas would be the job. We would conduct the work in close cooperation with the University of Minnesota and other land-grant institutions of the area.

ESTIMATED REQUIREMENTS FOR THE PROPOSED FACILITY

It is estimated that approximately 740 acres of land would be required on the Barnes-Aasted soils which would serve as the main station. In addition, four or five 10- to 20-acre fields would be leased which would provide sites for studies on outlying soil areas.

The building needs would be comprised of an office-laboratory building having sufficient space for 10 to 12 professional personnel. In addition, other structures would include a small crop processing and storage building; greenhouse; machinery shed; and miscellaneous structures, such as pumphouse, oil storage, corn cribs, etc.

The equipment would include miscellaneous automotive and farm equipment; irrigation facilities; plot equipment, and field research installations, such as lysimeters and evapotranspirometers; also office, laboratory, and miscellaneous equipment.

ESTIMATED COST OF SOIL AND WATER RESEARCH FACILITY

Mr. ANDERSEN. When you appeared at Morris last September 24, you furnished our subcommittee at our request the initial cost of construction of such a facility and equipping it. As I recall, you advised us in response to our questions that about $830,000 would be required, assuming that Congress approved the project. Would you say if the project was approved by the Congress that that figure would still be approximately correct?

Dr. SHAW. Yes, sir.

LEGISLATIVE AUTHORITY TO CONSTRUCT FACILITY

Mr. ANDERSEN. Dr. Shaw, may I ask this question: Does the Department now have the general legislative authority to proceed with the establishment of such a facility whether it be at Morris, or some other place around the United States?

Dr. SHAW. Yes, sir, we have the authority for the construction of buildings and the purchase of land.

We would need as always specific provision in the appropriation act, directing the use of the money in that way.

Mr. ANDERSEN. But it is definitely my conviction that the Department's authority is sufficiently broad as to not require legislative authority in each instance of the establishment of a facility of this nature.

Dr. SHAW. That is correct, sir.

Mr. ANDERSEN. Mr. Chairman, there is a most urgent need for the type of research results that the contemplated facility would provide.

In the last few days bills have been introduced in the House and the other body providing for the construction of several such facilities—four, I believe, gentlemen—and authorizing the appropriation of funds for that purpose. I repeat, although I have no doubt that the Department already has sufficient legislative authority to proceed with such projects, assuming the funds were provided by the Congress, I merely cite these bills to illustrate the widespread interest in this type of research in the Congress in both bodies.

Thank you, Dr. Shaw. As always, you have been helpful to this subcommittee by providing basic information we need.

Mr. WHITTEN. Dr. Shaw, we would be interested in any information you might have in connection with this particular project and problem. I wish you would send to the committee for its use, any addi-

tional information that might be helpful to us in passing judgment on what course the committee might take in that area.

Dr. SHAW. Yes, sir.

Mr. ANDERSEN. I would like to emphasize further, Mr. Chairman, that such a facility would directly benefit the farmers in 38 million acres of good farmland through eastern and southern Minnesota, South Dakota, Iowa, and the northern corner of Nebraska.

Thank you, Dr. Shaw. I will go into this later, sir.

Mr. WHITTEN. Mr. Horan——

ECONOMIC SIZE OF FARMING UNIT IN COLUMBIA BASIN AREA

Mr. HORAN. We have already had some discussion on the matter of what constitutes an economic unit. You are aware, of course, Secretary Peterson, of the conversation we had around the holidays informing you that the Department of the Interior was holding hearings out in the Columbia Basin area, on this very subject. We know, of course, that studies as to what constituted an economic unit in that area were undertaken and were established in the late 1930's, and became the basis of an antispeculation law which was passed in 1943. There were some complaints that the units were not large enough. There is a bill before the Interior and Insular Affairs Committee now to increase the size of those units out there to 320 acres.

Did you have an observer at those hearings?

Mr. PETERSON. I don't recall that we did.

Mr. HORAN. Do you know Dr. Johnson?

Dr. JOHNSON. Yes.

I know Dr. Fuhriman was out there. I have not had a full report from him but he did attend the hearings.

Mr. HORAN. One of the most successful and leading men in that area, one of our leading citizens, has written a letter protesting the increase of the economic units to 320 acres.

Mr. PETERSON. I understood that the general consensus of the Columbia Basin Chamber of Commerce, representing farming interests around the area of Quincy, particularly, was to make the same provisions as to size of unit included in the Reclamation Act, applicable to the Columbia Basin Act, which gave a base unit of 160 acres.

Mr. HORAN. That is why the hearing was held.

There is some confusion out there now, and there has been some attempt to evade the act by one method or another.

Mr. PETERSON. Caused by economic necessity, I might add.

Mr. HORAN. Yes, but in this letter I was referring to, this man explained that those who were just farming two units—now they vary in size from 40 to 160 as you know—that he was more successful than those who were able by one method or another to farm a still larger area.

I wondered if Dr. Fuhriman was there, and listened to those discussions.

Dr. JOHNSON. Yes, I think he was. I will get a more detailed report on his reactions to that hearing. I did have a report from him before the hearing was held. As you know, we have underway a study out there of the units in the Columbia Basin.

Mr. HORAN. I understand we have one that will be nationwide and Mr. Peterson referred to it in his excellent statement.

Dr. JOHNSON. That is correct.

One of the areas being studied is the Columbia Basin, in cooperation with Washington State College. I think I discussed that with you last spring. We have only very sketchy information so far, but there doesn't seem to be too much relation between the size of the farm and loan delinquency. The farms vary in size. The original study on the size of units out there contemplated about $1,800 available for family living in terms of prewar prices, when the units were fully developed. In terms of 1955 prices that would be roughly equivalent to a little over $3,000, for family living when the farms are fully developed. One of the difficulties out there has been the cost of development. Another difficulty is that some of the settlers as you know have not had adequate finances of their own.

Mr. HORAN. I understand that along in December, the Bureau of Reclamation raised the basic financial requirement from $4,500 to $8,000.

Dr. JOHNSON. I think they have had the experience, that some of the settlers have not had, adequate equity capital.

Mr. HORAN. All I want to be sure of is that you are prepared to testify further on this when we get into the general hearings and into your shop. I do want to question you on that.

Also, we all know that farming is a competitive industry and that in order to stay in it, you have to have the finances to acquire, rent or borrow adequate machinery to work with so that you can farm economically.

I may ask you, however, why the prosperity among the Mennonites about 100 miles to the north of us where they don't even use electricity. They seem to be getting along all right.

I assume there are more or less reasons there that account for a good deal of that. I may want to ask you those questions.

Now, last year we had a very interesting research booklet that came before us.

EMPLOYMENT IN FOOD PROCESSING

Dr. Shaw, how many people are working in processing plants between the consumer and the farmer, compared to the number working on farms? It is 1 to 2½, isn't it?

Dr. SHAW. I don't know the exact figures, but I will be glad to supply them for the record.

(The information requested follows:)

Number of employees in specified industries processing farm products and number of workers in farm production, 1939 and 1955

Year	Food and kindred products	Textile mill products	Apparel and other finished products	Tobacco products	Leather and leather products	Total	Farm workers
	Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
1939	1,192	1,232	897	106	383	3,810	11,338
1955	1,545	1,075	1,207	104	382	4,313	7,859

Data from Bureau of Labor Statistics and Agricultural Marketing Service.

As the industries which process farm products also process products of nondomestic farm origin, not all of these workers are engaged in processing farm products.

According to 1948 census data, about 6 million workers (including proprietors and family labor) were employed in various retail stores selling products of farm origin such as food stores, restaurants, dry goods and department stores, liquor stores, and so on. Wholesalers handling products of farm origin employed almost 1 million workers in 1948. Complete data on wholesaling and retailing are not available for a later year, but it is likely that the numbers have increased in both retail and wholesale trades. These statistics also include some workers not engaged in handling products of domestic farm origin.

Mr. HORAN. A lot of our research and ingenuity in the United States results in the creation of TV dinners and all that sort of thing, that is processed and the farmer doesn't get any of that.

It increases the cost of food and other things to the consumer but it tends in a seller's market to bankrupt the farmer because there is a limit to what the consumer will pay but the farmer has to take the rap.

Have you discussed that factor in your research policies?

Dr. SHAW. Yes; we have, Mr. Horan. As you know, this field that we are discussing, now, is in the Agricultural Marketing Service, but in terms of selling a number of our farm products—take one like rice or beans or something of that sort—the housewife has discontinued buying those things because of the time it takes to prepare them in the kitchen. I think that is one of our problems on potatoes. The time it takes the housewife to prepare a meal is related to the pealing and preparing of potatoes and so on.

Mr. HORAN. Definitely, as our population increases—and we have had considerable discussion of that, you mentioned it in your article, here, Dr. Shaw—definitely I think the cost of living as far as the farmer is concerned is in for some increase. I think it has been pretty low, comparatively, to increases in other fields for the last few years, at least. And when I see the cost of living index and realize that perhaps the farmer is a little bit better off as far as his income is concerned, I think that is just a natural thing and I don't know how we can avoid it. The people demand minute rice and demand the great galaxy of breakfast food we have today and then demand TV dinners and we find two people working in processing plants for every one producing the basic commodity on the soil.

We just have to face that and realize that after all if this research is to help the farmer, his income should be increased.

RESEARCH DIRECTED TOWARD AIDING FARMER

Are you putting emphasis on keeping our research as close to the farm as you can?

Dr. SHAW. Certainly, Mr. Horan. Every research project that we undertake has the objective of helping the farmer. Our utilization and marketing research is done after the products leave the farm and we have a sizable program in that field. But our objectives in trying to develop these new or improved uses are to broaden the market for the agricultural products.

Mr. HORAN. That is the only hope?

Dr. SHAW. Yes. Certainly, as you indicate, a lot of the benefit from utilization and marketing research is going to accrue to the consumer. But if we can modify the product as we do in our utilization research, or reduce the cost as Mr. Wells does in his work in the Agricultural Marketing Service, in marketing products, we feel that

we are opening up potential expansion in the market for farm products.

Mr. HORAN. Which will eventually drift back to the farmer.

Dr. SHAW. He will certainly get some part of it.

Mr. HORAN. If he can hold his breath that long.

Dr. SHAW. Well, I feel very definitely that our aim in this research should be to find outlets for all the farmer can produce from all of his acres.

Mr. HORAN. I think we are almost there. You indicated last year we would become in balance by 1960 as far as available production and population are concerned. I think we are coming to the place where that will be true.

I was rather impressed with the chairman's observations that we can no longer, due to mechanism and acreage production programs written into law, now, we can no longer hold an umbrella pricewise over the rest of the world and not control their acreage, too. We face a condition where we need all the research you can give us for us to intelligently approach this problem.

Mr. ANDERSEN. I would like to back up your statement as to the comparatively low income for the farmers. An economist showed me figures which showed that agriculture since 1947 had been shortchanged an average of $8 billion a year since 1947. That is annually, in agriculture's gross income, were agriculture to be on the same plane today in proportion to all other segments of our economy.

AGRICULTURAL ENGINEERING RESEARCH

Mr. HORAN. When we have the agricultural engineering group before us I would like to have them give us citations of things that have kept research close to the farm, and of great benefit.

I as an apple producer have seen many new insecticides come in, and new machinery. The speed sprayer took the place of our stationary units which were rather expensive to buy and to install and to maintain. We have saved literally thousands and thousands of dollars to a man on a 20-acre apple orchard. We have seen the introduction of improved hay balers that have greatly revolutionized the production and storing of hay.

I would like to have the boys in the engineering department give us quite a number of citations. I think it will be helpful. I think it is the type of thing that will improve the morale of our American farmers. I would like to have them tell us what they have by way of hopeful improvements in cotton pickers. I think that is very much in need, research in improving the present cotton picker.

We are running experiments in new types of ladders that might be used in various types of production like trees and other things of that sort. That sort of research, if successful, is immediately felt by the producer in America and I would just like to have the record reflect that.

Dr. SHAW. We will be glad to do that.

Mr. HORAN. That is all, Mr. Chairman.

EFFECT OF PRICE SPREAD BETWEEN FARMER AND CONSUMER

Mr. WHITTEN. In connection with this survey which the Department has made of where the money goes between the consumer and the farmer, this committee is very proud of its part in that program. It was at the direction of this committee that funds were set aside and a directive was written in the report to make such a survey. I am glad to see the Department has made it.

I think as has been pointed out by Mr. Horan that the findings clearly demonstrate that the big part of consumer costs now have been because more and more people have moved in between the farmer and the consumer. As you have pointed out, much of it is for additional services which the consuming public has come to desire. But, since the consumer will pay only so much and a big part of it goes to those services, it increases the pressure on the farmer and runs his prices right on down. It is that situation which leads to my continuing support of price supports, which as we know is no cure-all.

I would personally like for you to have your people put in the record at this point such pertinent parts of that report as might demonstrate your findings.

Dr. SHAW. Yes, sir.

(The information requested by Mr. Whitten follows:)

The Agricultural Marketing Service research staff has published a series of reports on price spreads since this House Appropriations Committee's original request in 1955. The studies completed generally show about an 85 percent widening of the farm to consumer food price spreads since 1945. Labor and transportation costs have risen rapidly since 1945. For example, wage rates averaged about $1.81 an hour in 1956 compared to 88 cents in 1945, although the increase in average unit labor cost was considerably less than the average hourly wages, which reflects the increasing productivity of labor. Freight rates have risen about 75 percent as a result of 13 rate increases since 1945. Further rate boosts of up to 15 percent are now being sought by the railroads.

Almost all other costs of food marketing have risen in the last 10 years—including costs of packaging materials, containers, fuel, machinery, and equipment, rents, and taxes. Marketing firms have been able to offset some, but not all, of the effect on their costs of these increases in wages and prices by increased output per man-hour and adopting new practices for efficient management. Large investments in new plant and equipment have added to depreciation costs and the marketing cost structure.

Profits before taxes of food-marketing firms as a percentage of the sales dollar were at or near their high in 1945 and 1946. Profit rates per sales dollar have tended to decline since 1946. However, available data indicate that profit rates and total profits of food-marketing firms in the first three quarters of 1956 were slightly higher than in the same period of 1955. Total profits before taxes of many of these firms have increased in recent years, primarily because of the increased volume of food sales handled by these firms.

During the last decade several new marketing services emerged, the most important being the many forms of ready-to-cook and ready-prepared foods, and premixes of various types. Prepackaging and frozen foods also became more prominent as means of preservation and merchandising. The general trend toward an "urbanized" economy has hastened this transfer of food preparation from the home to the factory and restaurant. Approximately $6 billion out of the $23 billion rise in total food marketing costs since 1940 is attributable to additional marketing services such as those referred to above.

Approximately 20 percent more workers were engaged in processing and distributing food in 1956 than 1945. On the other hand, there are now over 20 percent fewer workers on farms than in 1945. The rise in number of workers in food marketing was caused by the added services performed in marketing and the increased volume of food handled. The amount of food marketed has increased faster than food consumption because a larger proportion of the population is living off the farms and even farm families are buying a larger part of their food than formerly.

Details for individual food products and cost items are given in several reports and articles which have been prepared by the Agricultural Marketing Service research staff.

Salaries and Expenses

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
Direct obligations:			
1. Research:			
(a) Crops research	$13,895,995	$17,324,717	$17,687,200
(b) Farm and land management research	7,147,740	9,898,010	13,016,200
(c) Livestock research	6,603,639	7,895,400	8,985,100
(d) Administration of payments to States and Territorial research	764,675	841,000	911,900
(e) Home economics research	1,529,349	1,825,300	2,164,600
(f) Utilization research	9,475,400	12,194,100	14,145,000
Total research	39,416,798	49,978,527	56,910,000
2. Plant and animal disease and pest control:			
(a) Plant disease and pest control	11,954,496	18,457,455	16,566,600
(b) Animal disease and pest control	9,090,945	9,349,100	10,385,400
Total, plant and animal disease and pest control	21,045,441	27,806,555	26,952,000
3. Meat inspection	15,217,643	15,650,000	18,718,000
Total direct obligations	75,679,882	93,435,082	102,580,000
Obligations from amount advanced by Commodity Credit Corporation:			
2. Plant and animal disease and pest control (b) Animal disease and pest control (brucellosis eradication)	16,224,435	20,000,000	20,000,000
Total obligations	91,904,317	113,435,082	122,580,000
Financing:			
Comparative transfers to other accounts	22,778		
Unobligated balance brought forward		−6,527	
Appropriation available from subsequent year	−987,445		
Appropriation available in prior year		987,445	
Advances (repayable to Commodity Credit Corporation)	−16,224,435	−20,000,000	−20,000,000
Unobligated balance carried forward	6,527		
Unobligated balance no longer available	1,025,178		
Appropriation (adjusted)	75,746,920	94,416,000	102,580,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
AGRICULTURAL RESEARCH SERVICE			
Total number of permanent positions	12,987	14,333	15,311
Full-time equivalent of all other positions	2,183	2,612	2,473
Average number of all employees	13,483	15,483	16,335
Number of employees at end of year	17,596	19,350	19,950
Average salaries and grades:			
General schedule grades:			
Average salary	$5,209	$5,218	$5,262
Average grade	GS-7.0	GS-7.0	GS-7.2
Ungraded positions: Average salary	$3,829	$3,911	$3,909
Personal service obligations:			
Permanent positions	$57,926,817	$66,010,704	$71,562,653
Positions other than permanent	9,237,182	11,321,768	10,708,556
Regular pay above 52-week base	228,630		279,625
Payment above basic rates	549,119	563,600	583,738
Other payments for personal services	2,001		
Total personal service obligations	67,943,749	77,895,572	83,134,572
Direct obligations:			
01 Personal services	58,734,749	66,036,572	71,882,572
02 Travel	2,254,393	2,577,700	2,860,700
03 Transportation of things	312,282	410,600	430,700
04 Communication services	491,896	576,000	576,600

Obligations by objects—Continued

	1956 actual	1957 estimate	1958 estimate
AGRICULTURAL RESEACH SERVICE—continued			
Direct Obligations—Continued			
05 Rents and utility services	$612,193	$683,700	$747,800
06 Printing and reproduction	388,356	493,000	570,000
07 Other contractual services	3,236,084	6,441,900	6,034,400
Services performed by other agencies	2,288,842	3,654,900	3,887,500
08 Supplies and materials	4,519,795	5,976,483	4,918,428
09 Equipment	1,593,212	2,476,300	2,726,500
10 Lands and structures	83,478	1,922,300	1,384,000
11 Grants, subsidies, and contributions: Contribution to retirement fund			4,331,500
13 Refunds, awards, and indemnities:			
Awards for employee suggestions	14,389	15,000	15,000
Anaplasmosis indemnities	11,606	9,000	9,000
Brucellosis indemnities	548,000	548,000	548,000
Scrapie indemnities	59,956	70,000	75,000
Tuberculosis indemnities	374,878	380,000	380,000
Federal tort claims	366	400	400
15 Taxes and assessments	97,831	102,300	100,200
Contingency fund		935,000	1,000,000
Subtotal	75,622,306	93,309,155	102,478,300
Deduct charges for quarters and subsistence	85,897	88,300	88,300
Total direct obligations	75,536,409	93,220,855	102,390,000
Reimbursable obligations:			
01 Personal services	9,209,000	11,859,000	11,252,000
02 Travel	327,000	563,000	528,000
03 Transportation of things	23,000	37,000	37,600
04 Communication services	120,000	204,000	194,000
05 Rents and utility services	38,000	62,300	62,300
06 Printing and reproduction	62,000	99,000	99,000
07 Other contractual services	102,000	174,000	174,000
Services performed by other agencies	90,000	184,000	154,000
08 Supplies and materials	571,084	1,051,553	999,100
09 Equipment	39,000	245,000	200,000
11 Grants, subsidies, and contributions: Contribution to retirement fund			162,000
13 Refunds, awards, and indemnities: Brucellosis indemnities	5,512,351	5,334,547	5,952,000
15 Taxes and assessments	131,000	186,000	186,000
Total reimbursable obligations	16,224,435	20,000,000	20,000,000
Total, Agricultural Research Service	91,760,844	113,220,855	122,390,000
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
07 Other contractual services (total, General Services Administration)		57,700	40,000
ALLOCATION TO BUREAU OF PUBLIC ROADS, DEPARTMENT OF COMMERCE			
Average number of all employees	2	2	2
Number of employees at end of year	3	3	0
01 Personal services:			
Positions other than permanent	$12,721	$14,800	$14,800
Regular pay above 52-week base	49		
Payment above basic rates	172	200	200
Total personal services	12,942	15,000	15,000
04 Communication services	2		
06 Printing and reproduction	392	500	500
07 Other contractual services	1,067	1,500	1,500
10 Lands and structures	129,070	139,527	133,000
Total, Bureau of Public Roads	143,473	156,527	150,000
Total obligations	91,904,317	113,435,082	122,580,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET APPROPRIATIONS AVAILABLE			
Appropriation	$75,699,920	$94,416,000	$102,580,000
Transferred from "Diseases of animals and poultry, Agricultural Research Service"	47,000		
Adjusted appropriation	75,746,920	94,416,000	102,580,000
Balance brought forward:			
Unobligated		6,527	
Obligated	11,900,573	9,584,322	12,919,404
Appropriation available from subsequent year	987,445		
Appropriation available in prior year		−987,445	
Total budget authorizations available	88,634,938	103,019,404	115,499,404
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	67,104,962	81,525,000	90,135,000
Out of prior authorizations	10,858,583	8,575,000	11,500,000
Total expenditures	77,963,545	90,100,000	101,635,000
Balance no longer available:			
Unobligated (expiring for obligation)	1,025,178		
Other	55,366		
Balance carried forward:			
Unobligated	6,527		
Obligated	9,584,322	12,919,404	13,864,404
Total expenditures and balances	88,634,938	103,019,404	115,499,404

Mr. WHITTEN. If there are no other questions, then we wish to thank you for this presentation and we turn now to "Salaries and expenses."

We will insert in the record page 5 of the justification and also pages 6 through 10 of the justifications.

(The pages referred to follow:)

Salaries and expenses

	Research	Plant and animal disease and pest control	Meat inspection	Total
Appropriation act, 1957	$49,972,000	$26,294,000	$15,650,000	$91,916,000
Supplemental appropriation act, 1957		2,500,000		2,500,000
Base for 1958	49,972,000	28,794,000	15,650,000	94,416,000
Budget estimate, 1958	56,910,000	26,952,000	18,718,000	102,580,000
Increase or decrease	+6,938,000	−1,842,000	+3,068,000	+8,164,000

Summary of increases and decreases, 1958

Research:

A net decrease under horticultural crops research consisting of a reduction of $775,000 due to elimination of nonrecurring amounts in the 1957 appropriation for construction of a National Seed Storage Laboratory ($450,000) and of a horticultural, soil, and water research laboratory in the Rio Grande Valley of Texas ($325,000), partially offset by increases of $181,000 to strengthen the plant disease warning service to growers and to expand research on plant-disease organisms ($78,000), and to staff the new National Seed Storage Laboratory ($103,000) ..... −$594,000

Summary of increases and decreases, 1958—Continued

Research—Continued	
To expand entomology research on biological methods and commodity and other treatments for controlling destructive insects	+$208,000
For soil and water conservation research to increase efficiency in water management in relation to irrigation ($424,000); to conduct soil and water research in the upper Colorado River Basin ($208,000); to expand research in watershed hydrology ($208,000); to provide facilities for expanded sedimentation research in the South ($600,000); and for construction, alteration, and equipment of buildings at the U. S. Salinity Laboratory, Riverside, Calif. ($125,000)	+1,565,000
To strengthen agricultural engineering research by developing and improving equipment and methods for application of chemicals to control insects, diseases, and weeds in growing crops ($146,000); and by expanding engineering research on harvesting and handling new crops ($104,000)	+250,000
To strengthen production economics research to provide economic guides for development and appraisal of farm programs and research on financial condition, land ownership, and tax burden on different groups of farmers ($731,000); and for economic studies of irrigation in the upper Colorado River Basin ($104,000)	+835,000
For expanding animal and poultry husbandry research by strengthening research on the development of improved types of sheep on farms ($155,000); and by providing urgently needed buildings and facilities at the U. S. Range Livestock Experiment Station, Miles City, Mont. ($145,000); and at the U. S. Sheep Experiment Station, Dubois, Idaho ($250,000); partially offset by the elimination of a nonrecurring amount in the 1957 appropriation for the construction of a modern centralized poultry brooder house at Beltsville, Md. (—$225,000)	+325,000
To expand and improve the dairy herd improvement and sire-proving programs	+154,000
To strengthen research on animal parasites	+308,000
To expand research on urgent problems of fat in human nutrition	+200,000
To expand research on serviceability and maintenance of clothing fabrics	+53,000
To expand utilization research on wheat, other small grains, and corn to provide information needed to encourage increased use in industrial products and feeds	+770,000
To expand utilization research on cotton and other fibers by developing new and improved cotton fibers, fabrics, processes, and processing machinery to strengthen the markets for cotton ($365,000); by expanding research on utilization of wool and mohair ($400,000); and by constructing a building urgently needed for processing research on wool at the Western Utilization Research Laboratory, Albany, Calif. ($105,000)	+870,000
A net decrease under fruits and vegetables utilization research consisting of elimination of a nonrecurring amount in the 1957 appropriation of $785,000 for construction of a laboratory at Winter Haven, Fla., for research on citrus and other fruits and vegetables, partially offset by an increase of $181,000 to strengthen the market for surplus fruits, nuts, and vegetables by development of processed products of improved quality, stability, and convenience, and byproducts of greater value	—604,000
To expand utilization research on linseed oil and cottonseed oil and meal	+260,000
To expand utilization research on animal fats	+104,000
Net increase for research	+4,704,000

Summary of increases and decreases, 1958—Continued

Plant and animal disease and pest control:	
A reduction of $4,080,000 under the contingency fund for control of emergency outbreaks of insects and plant diseases, partially offset by increases to evaluate registered labeling on marketed products for compliance with the Federal Food, Drug, and Cosmetic Act, as amended ($120,000) and for the construction of a greenhouse and headhouse at Beltsville, Md., for testing work under the Federal Insecticide, Fungicide, and Rodenticide Act ($30,000)	−$3,930,000
To strengthen plant quarantine inspection services	+520,000
To strengthen the diagnosis, control, and eradication of miscellaneous livestock diseases	+240,000
To provide greater inspection coverage to establishments producing veterinary biologics and to strengthen the testing of such products ($204,000), and for the construction of facilities for livestock inspection at 4 ports of entry ($156,000)	+360,000
Net decrease for plant and animal disease and pest control	−2,810,000
Meat inspection:	
To meet an increasing workload on the Meat Inspection service, for higher pay costs due to changes in position standards, and for furnishing washable outer garments to inspectors	+2,132,000
For contribution to the retirement fund pursuant to Public Law 854	+4,138,000
Total net increase, salaries and expenses	+8,164,000

Project statement

Project	1956	1957 (estimated)	Increase or decrease		1958 (estimated)
			Retirement costs (Public Law 854)	Other	
1. Research:					
(a) Crops research:					
(1) Field crops	$5,651,872	$7,158,760	+$319,340	.....	$7,478,100
(2) Horticultural crops	3,920,620	[1] 5,325,930	+197,770	−$594,000	4,929,700
(3) Entomology	4,330,030	4,833,500	+237,900	+208,000	5,279,400
Total, crops research	13,902,522	[1] 17,318,190	+755,010	−386,000	17,687,200
(b) Farm and land management research:					
(1) Soil and water conservation	3,841,559	5,391,110	+252,290	+1,565,000	7,208,400
(2) Agricultural engineering	1,663,587	1,980,500	+86,500	+250,000	2,317,000
(3) Production economics	1,642,594	2,526,400	+129,400	+835,000	3,490,800
Total, farm and land management research	7,147,740	9,898,010	+468,190	+2,650,000	13,016,200
(c) Livestock research:					
(1) Animal and poultry husbandry	2,644,598	3,350,100	+117,800	+325,000	3,792,900
(2) Dairy husbandry	1,483,041	1,671,000	+72,300	+154,000	1,897,300
(3) Animal disease and parasite	2,476,000	2,874,300	+112,600	+308,000	3,294,900
Total, livestock research	6,603,639	7,895,400	+302,700	+787,000	8,985,100
(d) Administration of payments to States, and Territorial research:					
(1) State experiment stations	168,820	222,200	+46,300	.....	268,500
(2) Territorial experiment stations	595,855	618,800	+24,600	.....	643,400
Total, administration of payments to States, and Territorial research	764,675	841,000	+70,900	.....	911,900

See footnote at end of table.

Project statement—Continued

Project	1956	1957 (estimated)	Increase or decrease		1958 (estimated)
			Retirement costs (Public Law 854)	Other	
1. Research—Continued					
(e) Home economics research:					
(1) Human nutrition	$704,246	$913,730	+$42,470	+$200,000	$1,156,200
(2) Household economics	468,249	549,370	+25,730		575,100
(3) Clothing and housing	356,854	362,200	+18,100	+53,000	433,300
Total, home economic research	1,529,349	1,825,300	+86,300	+253,000	2,164,600
(f) Utilization research:					
(1) Cereal and forage crops	1,753,103	2,162,680	+104,720	+770,000	3,037,400
(2) Cotton and other fibers	1,712,027	2,112,000	+104,900	+870,000	3,086,900
(3) Fruits and vegetables	2,004,476	2,811,350	+95,950	−604,000	2,303,300
(4) Oilseeds	1,173,022	1,194,700	+59,500	+260,000	1,514,200
(5) New and special plants	936,852	1,457,090	+71,310		1,528,400
(6) Poultry, dairy, and animal products	1,895,920	2,456,280	+114,520	+104,000	2,674,800
Total, utilization research	9,475,400	12,194,100	+550,900	+1,400,000	14,145,000
Total, research	39,423,325	49,972,000	+2,234,000	+4,704,000	56,910,000
2. Plant and animal disease and pest control:					
(a) Plant disease and pest control:					
(1) Plant pest control	7,854,884	[1]15,357,700	+303,900	−3930,000	11,731,600
(2) Plant quarantine	3,112,167	4,087,200	+227,800	+520,000	4,835,000
Total, plant disease and pest control	10,967,051	19,444,900	+531,700	−3,410,000	16,566,600
(b) Animal disease and pest control:					
(1) Animal disease control and eradication	7,707,398	7,936,400	+357,600	+240,000	8,534,000
(2) Animal quarantine	1,383,547	1,412,700	+78,700	+360,000	1,851,400
Total, animal disease and pest control	9,090,945	9,349,100	+436,300	+600,000	10,385,400
Total, plant and animal disease and pest control	20,057,996	28,794,000	+968,000	−2,810,000	26,952,000
3. Meat inspection	15,217,643	15,650,000	+936,000	+2,132,000	18,718,000
Unobligated balance	1,025,178				
Total retirement costs (Public Law 854)			[+4,168,000]	[+311,000	[4,479,000]
Total available or estimate	75,724,142	94,416,000	+4,138,000	+4,026,000	02,580,000
Transferred from "Foot-and-mouth and other contagious diseases of animals and poultry, Agricultural Research Service, research"	−47,000				
Transfers in 1957 estimates to other accounts	+22,778				
Total appropriation or estimate	75,699,920	94,416,000			

[1] Does not reflect $6,527 of fiscal year 1956 funds for obligation by Bureau of Public Roads in fiscal year 1957 for supervision of road construction contract let in fiscal year 1956 (11 Comp. Gen. No. A–43067).
[2] Includes $987,445 obligated for control of medfly in fiscal year 1956 from 1957 appropriation which provided that $1,250,000 be immediately available for expenditure in fiscal year 1956 for such purpose.

Crops Research

Mr. Whitten. The first item under "Research" is "Crop research."

Dr. Shaw. Dr. Quisenberry will discuss this item, Mr. Chairman.

Dr. Moseman, as you know, has been in charge of our crops research. He left the Department this past year and Dr. Quisenberry has been appointed in his place.

Dr. Quisenberry. I am very happy to be here, Mr. Chairman. I have been with the Department some 34 years, I must admit.

BACKGROUND AND EXPERIENCE OF DR. KARL S. QUISENBERRY

Mr. WHITTEN. I would appreciate your putting your background and experience in the record. You don't have to give it now, but I think you might like to put it in the record.

Dr. QUISENBERRY. I would be very happy to do so, Mr. Chairman.

(The information requested follows:)

BACKGROUND AND EXPERIENCE OF KARL S. QUISENBERRY, DIRECTOR, CROPS RESEARCH, AGRICULTURAL RESEARCH SERVICE

Dr. Quisenberry is an agronomist who has spent most of his professional career in the Department of Agriculture. He is a native of Denison, Tex., was raised in central Kansas, and graduated from Kansas State College in 1921. Later he took advanced work in plant breeding, genetics, and pathology at the University of Minnesota where he received his Doctor of Philosophy degree in 1930. While a student in Kansas he served as an undergraduate student in wheat breeding work, cooperative between the Kansas station and the United States Department of Agriculture. His undergraduate training was interrupted by a brief period in the Army.

Prior to joining the United States Department of Agriculture on a full-time basis in 1925 he spent 4 years as instructor in agronomy and assistant agronomist at the University of West Virginia at Morgantown. From 1925 to 1936 he was a member of the Division of Cereal Investigations, working on winter wheat improvement. From 1936 to 1946 he was stationed at Lincoln, Nebr., in charge of the Department's regional cooperative Hard Red Winter wheat-improvement program. Also, at the request of the State of Nebraska, he had charge of the State experiment station's small grains improvement work. His chief contributions were in the field of cereal improvement emphasizing the development of new varieties having disease resistance, cold tolerance, and quality. In 1946 Dr. Quisenberry was named head of the Division of Cereal Crops and Diseases of the former Bureau of Plant Industry, Soils, and Agricultural Engineering, and he was appointed Assistant Chief of that Bureau in 1951. In late 1953 he was appointed Assistant Director of Crops Research in the Agricultural Research Service, and became Director on July 1, 1956. As Director of Crops Research he is responsible for the research programs in field crops, horticultural crops, and entomology.

Mr. ANDERSEN. Might I say I welcome Dr. Quisenberry in the capacity he appears here, today. From what I know of the gentleman he is going to fill that position very well.

Mr. WHITTEN. I feel certain that would be true.

PROGRESS IN CROPS RESEARCH

Dr. QUISENBERRY. I would like to tell you of some of the progress we have made this past year in crops research. In some cases this is in areas where we are not asking for increases and in areas where we received increases last year.

As you will remember, Mr. Chairman, in Crops Research we have the three branches. We have field crops, horticultural crops, and entomology. Most of our work is in cooperation with the various State agricultural experiment stations. I might add a comment on some of the questions that have been asked previously by Messrs. Horan and Andersen regarding the matter of quality of the product. In all of our work in production research we are constantly trying to produce crops that give better performance on the farm, as well as better quality of the end product, whether it be food, feed or fiber, for the ultimate consumer.

DURUM WHEAT

Now, I would like to mention just a few significant research accomplishments during the past year. First, I would like to mention

the story of the durum wheats. You will remember that some years ago the durum wheat production in the Northwest was in a bad way due to black stem rust, especially race 15B. We had some increased support and in 1951 we started to work in a vigorous manner. We made crosses between available resistant strains and commercial types to produce new varieties. By using greenhouses, winter crops in Arizona, California and Mexico, and with unusually good cooperation of the State experiment stations, by this spring, the spring of 1957, we will have some 2 million bushels of seed of new varieties available for the durum wheat farmers. We think that is quite an accomplishment.

There have been four new varieties put out. The two best ones are named Langdon and Yuma. They are not the final answer but they will be very good stopgap varieties until better ones are produced.

SPOTTED ALFALFA APHID

Another problem I would like to mention, Mr. Chairman, has been mentioned by Secretary Peterson. It has to do with the alfalfa aphid. The alfalfa aphid came into the United States in 1954, and has spread rapidly until at the present time it is in 30 States and is threatening some 15 million acres of alfalfa. We have one variety named Lahontan that was produced in cooperative experiments between the Agricultural Research Service and Nevada. Lahontan has resistance to this spotted aphid, the resistance having been discovered by our entomologists. The adaption of the variety is not as wide as we might like, but it is supplying us with what we call resistant germplasm. At the present time we have about 1,800,000 pounds of certified seed of the variety and we think that by the fall of 1957 we will have between 6 and 8 million pounds of seed available.

At the same time we are increasing research to breed resistance to this aphid into varieties adapted to other alfalfa-growing areas. Our entomology research branch is working very hard in this field cooperating with the plant breeders to determine the resistance of varieties, other sources of resistance, and also in trying to find predators, or diseases which might attack this aphid. Many parasites have been introduced in the United States. Some of these have been released and evidence is now being found that these parasites are established in the field in some States and are becoming a real factor in the control of this alfalfa aphid.

Mr. ANDERSEN. Doctor, a point of information. Is there any danger of these parasites getting out of control themselves

Dr. QUISENBERRY. When a parasite is brought in, it is tested with great care to determine that it will not become a serious threat to other plants or to man. This careful checking is why it takes considerable time to complete the tests on these parasites, predators, and diseases before they are released.

Mr. ANDERSEN. Thank you.

MEDITERRANEAN FRUITFLY

Dr. QUISENBERRY. As has been mentioned earlier by Dr. Shaw and Mr. Peterson, it was the research of our entomology branch that formed the basis for the control of the Mediterranean fruitfly in Florida this past season.

The research was carried on for a number of years in Hawaii and Mexico, studying methods, studying sprays that might be used, finding what baits might be put in these sprays or baits that might be used in the lures to determine whether the infestation is present. All of that research certainly paid off when the emergency arose and we needed to attack the problem in real earnest.

HYBRID SORGHUM

Another problem to which we are giving considerable attention at the present time has to do with this question of hybrid sorghums.

You are familiar with the story of hybrid corn. Now that we are finding hybrid grain sorghums, a crop for the Southwest is coming into the picture. It is a new development and at the present time we think we will have enough seed this spring for about 7 million acres of hybrid sorghum.

Mr. ANDERSEN. You have just mentioned these hybrid sorghums. I noticed in a drive from Oklahoma up to Minnesota last fall through the drought regions that the only crop which seemed to be producing in any way was the sorghums.

Dr. QUISENBERRY. That is correct, sir. They are drought-resistant and they are adapted west and southwest of the Corn Belt where the rainfall is lower. You might call the crop dry-land corn.

Mr. ANDERSEN. That was forcibly called to my attention. I couldn't help but see that where there was a field of sorghum it was a fairly good crop and next to it would be a field of corn that wasn't worth a nickel.

Dr. QUISENBERRY. That is correct. Hybrid sorghums increase the yield by about 25 percent. Of course, one must get new seed every year the same as with hybrid corn, but the cost of seed per acre is not too great.

We hope sometime to expand our sorghum work to take in the southern and eastern part of the country because there is considerable interest in the grain sorghums in that part of the United States. So far they have been forced to use the varieties from the Middle West which are not too well adapted to that area and are susceptible to some of the serious diseases that affect them.

In the field of horticulture crops——

Mr. MARSHALL. Do I understand your work on hybrids has also found a sorghum that is more drought-resistant?

Dr. QUISENBERRY. I did not mean to say we had specifically found any variety that we are claiming is especially more drought-resistant than the others. The statement was based primarily on the fact that the sorghums generally are more drought-resistant than corn. I am sure some of the varieties do show more drought resistance than others and I imagine in just the normal selection work that goes on, the most drought-resistant are chosen because they are grown in the low rainfall areas of Nebraska, Kansas, Texas, Oklahoma, and Colorado.

Mr. MARSHALL. Thank you.

CHLOROSIS OF PEARS AND OTHER FRUITS

Dr. QUISENBERRY. Now, 1 or 2 examples in the field of horticultural crops. One of the outstanding things we found this year was that chelated iron corrects the chlorosis of pears and other fruits on some soils in Oregon. We know that on certain soils in the Western States pears and other fruits become quite chlorotic. The foliage is light green or white instead of dark green, and the trees make little growth and are largely nonproductive.

This chlorosis is caused by lack of available soluble irons in the trees. Experiments which were conducted in cooperation with Oregon to test the value of the iron have shown that when trees were sprayed twice with the material in 1954 they greened up almost completely and set a very heavy crop of fruit in the next year. Injecting solutions of chelated iron in the soil in 1954 did not cause greening that year but the trees came out green in 1955. Treatments with chelated iron to correct chlorosis of pears and return such trees to productive condition are now being used generally by the growers.

NEW VARIETIES OF VEGETABLES

In the horticultural field we also developed a number of new vegetable varieties during the year, such as a new cabbage variety known as the Y. R. Charleston Wakefield. We released in cooperation with the Texas station the first hybrid spinach named Early Hybrid No. 7. Even in the field of spinach we have hybrids. A number of new potato varieties for various parts of the country were produced and the testing work was completed in cooperation with several experiment stations. A new hybrid onion variety for the South, named Granex, was released in cooperation with the Texas agricultural experiment station.

CONTROL OF BROADLEAF WEEDS

One of the most difficult problems is the control of broadleaf weeds in more than 35 million acres of land planted to wheat and other small grains underseeded with legumes such as alfalfa, clovers, and lespedezas. Two new phenoxybutyric acids, closely related to 2,4-D, have been found to be highly selective herbicides in such situations and less toxic to the grain and legume crops than 2,4-D. The new herbicides, applied as postemergency sprays, gave good control of lambsquarters, pigweed, ragweed, smartweed, mustard, Canada thistle, and other broadleaved weeds in cereals underseeded with certain forage legumes, and in the establishment of weed-free new plantings of small seeded forage crops. It also gave good control in legume—grass pastures, forage legume seed production fields, flax, and in corn, wheat, oats, sorghum, and rice grown in the vicinity of crops such as cotton and grapes which are highly susceptible to phenoxyacetic acids, such as 2,4-D, as well as in other weed-crop situations. Department and industry chemists are cooperating extensively with the weed scientists to develop new chemicals with improved selectivity for the control of broad-leaved weeds in legumes and other crops.

BLIGHT RESISTANT VARIETIES OF COTTON

Losses in yield and quality of cotton caused by bacterial blight amount to several million dollars each year. These losses can be substantially reduced through the use of blight-resistant varieties. Although blight damage occurs across the entire Cotton Belt, the areas where the greatest damage occurs are the plains area of Texas and the irrigated valleys of west Texas, New Mexico, and Arizona. For the first time there are resistant varieties available which are adapted to the areas where blight damage is most severe. These varieties have yield, fiber properties, and other desirable agronomic characteristics equivalent to the susceptible varieties generally grown in those areas. The variety Acala 1517-BR is an Acala type adapted to the irrigated valleys of the southwest. The variety Blight Master is stormproof and is adapted to the plains, much of Texas and western Oklahoma where stripper harvesting is practiced. The variety Mebane B-1 is adapted to the blackland areas of Texas, and the variety Austin—a blight-resistant southeastern type—is adapted to south Texas as well as to the southeastern cotton-growing States.

WEED CONTROL BY HERBICIDES

Annual broad-leaved weeds and grasses were satisfactorily controlled in the humid portion of the Cotton Belt by the proper application of Isopropyl N-(3-chlorophenyl) carbamate (CIPC) or 3-(3,4-dichlorophenyl)-1, 1-dimethylurea (diuron). Although hoe-labor requirements were low in 1956, on an overall basis, the usage of herbicides resulted in actual savings to the farmer in weed-control costs. It is estimated that the total acreage treated with preemergence herbicides in 1956 was between 285,000 and 300,000 acres. CIPC and diuron gave effective early weed control in the mid-South without appreciable crop injury and over a range of rates of one-third to more than twice the optimum rates. In the lower Coastal Plains area of the Southeast diuron has not been as effective in controlling weeds as CIPC. Two new herbicides, 2-chloro-4,6-bis(diethylamino)-S-triazine (CDT) and *sec*-butyl N-(3-chlorophenyl carbamate (BCPC), evaluated as preemergence herbicides in 1956, appeared promising for weed control in cotton grown on light-textured soils.

IMPROVEMENT OF CASTORBEANS

An intensive study in cooperation with Oklahoma has resulted in discovery of a system of inheritance in castorbeans resembling the male sterility character used so successfully for breeding high-yielding and disease-resistant varieties of onions, sorghum, sugar beets, and other crops. Completely pistillate (female) castorbean lines that can be used for the production of commercial hybrid seed have been developed from several important varieties, including Cimarron and Custer. Inheritance of the female character appears to be controlled by a combination of cytoplasmic and genetic factors. It can be transferred easily to other desirable parental lines, thus promising to accelerate the program for breeding disease-resistant hybrids for the Midsouth and easily harvestable dwarf hybrids for irrigated production in the Southern Great Plains and the Southwest. The cost of commercial hybrid

castorbean seed should be materially reduced when the new female lines come into general use.

HARVESTING NON-SHATTERING SESAME VARIETIES

Laboratory trials and field tests of sesame, completed in the Federal-State cooperative varietal improvement program in Texas, indicated that most commercial combines can easily be modified or adjusted to thresh nonshattering sesame varieties without excessive damage to the seed. These trials showed that peripheral cylinder speeds of less than 33,000 inches per minute are required to obtain threshed seed germinating 80 percent or more. Combine efficiency of 95–98 percent was obtained at peripheral speeds as low as 23,750 inches per minute when adequate threshing surface was provided, and all unthreshed capsules were returned to the cylinder for rethreshing. The advantage of reduced cylinder speed preventing seed damage was lost if threshed seed was returned to the cylinder with the tailings.

CONTROL OF WITCHWEED IN CORN

During the summer of 1956 witchweed, a parasitic plant which attacks several crop species of the grass family, was found occurring as localized infestations in cornfields of several counties of North Carolina and South Carolina. The present status of knowledge concerning this pest and its disastrous effects on yield production in affected crops of South Africa indicates that it could become a severe problem in the United States, particularly if it should move into the Midwest Corn Belt. Curtailment of the spread of witchweed and development of suitable measures for its control are imperative. A program of coordinated research has been initiated in cooperation with the experiment stations of the affected States in order to arrive at satisfactory solutions as early as possible.

SAMPLES OF YAMS COLLECTED

Twenty-six exceptionally valuable samples of yam (Dioscorea) were collected in southern Mexico for cortisone and other hormones. Of these, 19 yielded 3 percent or better of diosgenin, the precursor of cortison; and among this number were 9 that yielded 5 percent or more diosgenin, the highest being 6.5 percent. A plant yielding 3 percent or better is considered of practical use in the agricultural production of cortisone. These collections are being increased for field testing. At present, the Department has selected about 30 of the more than 300 Dioscorea samples collected which have analyzed 3 percent or more diosgenin.

INTERNATIONAL EXCHANGE OF EXPERIMENTAL PLANT STOCKS

Through direct exploration and official correspondence, approximately 7,900 seed and plant collections were introduced during 1955 for the use of domestic research workers. A major portion of this material came from Iran and Japan where explorers particularly were seeking forage crops, small-grain cereals, vegetables, and ornamentals. Plant stocks sent abroad for immediate experimental use and to en-

courage future exchange included around 63,000 items for 119 countries or territories. Supplies of seed were also furnished to various technical missions operating under the International Cooperation Administration.

CONTROL OF NEMATODES BY RADIATION

Experiments in cooperation with the Brookhaven National Laboratories have indicated that nematodes associated with plants for transplanting or with plant parts, such as potato tubers, may be controlled by radiation at rates which are not harmful to the plants. If this finding can be put to practical use, it will be of immense value in the salvage of nursery stock which would otherwise be discarded, in preventing spread of nematodes from place to place on planting stock, and in aiding in more effective plant quarantines.

PLANT GROWTH REGULATORS

For many years Japanese researchers have known that the gibberella fungus, causal agent of a serious disease of rice, produces a substance or substances that greatly accelerate stem elongation when the culture filtrate is applied to plants of various kinds. Compounds produced by a fungus (*Gibberella* sp.) and tested at Beltsville, caused rapid elongation of the stems of young bean, cucumber, sunflower, barley, and corn plants grown in the greenhouse. This rare and little known substance offers unusual possibilities as a growth regulator. Long plant stems are sometimes advantageous for certain uses made of plants and therefore are of economic importance. Stimulation of elongation of plants would also give them advantage over competing growths. Research on this substance is continuing. In some instances the height of plants was increased 300 percent and the solid matter increased 30–40 percent.

NEMATODE CONTROL BY SOIL FUMIGATION

In the past 10 years, expenditures by farmers for soil fumigants used to control nematodes have increased from less than $100,000 to over $12 million annually. The greater part of this increase has taken place in the past 5 years. All of the pineapples produced commercially in Hawaii are grown on fumigated soil. In 1956, more than half of the tobacco acreage was fumigated. Use of fumigants on soil to be planted to vegetables is rapidly increasing. Farmers have found that soil fumigants often increase the value of crops 4 to 10 times the cost of the fumigant and its application.

REPLANTING PEACHES

In many parts of the United States great difficulty is encountered in reestablishing peach plantings on old peach sites. The basic cause of this is not known, but field replant work and greenhouse tests with soil from the spots where peach trees have stood are giving some valuable leads. In experiments in Maryland where soils are acid and soil acidity increases as a result of use of spray materials and fertilizers, liming before planting trees has been highly beneficial. Fumigating with methyl bromide has also increased growth. Best results

have been obtained from the combination of liming and fumigation. Fumigation with carbon disulfide and the application of various fertilizer materials have been of little benefit. In Texas methyl bromide fumigation has given outstanding results on naturally alkaline soils even though no evidence was obtained that nematodes or other soil organisms were attacking roots.

CONTROL OF PECAN SCAB

In cooperation with the Oklahoma Agricultural Experiment Station, three materials previously found to kill the overwintering scab fungus on the shucks of infected nuts were tested as eradicant sprays during the late dormant season. Both the trees and the ground under them were thoroughly sprayed. In some experiments this treatment was followed by a conventional growing season scab-control program. Dormant spraying with eradicant materials alone greatly reduced incidence of scab on the nuts of the following crop. Eradicant spraying, plus a growing-season spray program, largely eliminated scab. This experiment indicates a possible new approach to control of scab, the most serious disease of the pecan crop. Unfortunately, the eradicant sprays are highly poisonous. Livestock must be kept out of the orchards for several weeks after application.

NATIONAL ARBORETUM

Plans, grading studies, and specifications have been prepared under supervision of the Bureau of Public Roads for the grading and final surfacing of 4½ miles of roads at the National Arboretum in conformity with the master plan drawn by the Public Buildings Administration. Grading and gravel surfacing is proceeding according to contract, which has included construction of one box culvert over Hickey Creek, already completed.

Necessary extensions of the arboretum water system have been undertaken with the laying of 1,600 feet of 4-inch mains and 2,600 feet of 1-inch feeder lines to supply water to newly planted areas. Nine hundred feet of 4-inch tile have been laid to alleviate poor drainage conditions.

Plant collections have been increased by approximately 1,200 accessions representing 80 genera acquired as gifts or by purchase. These accessions have included 600 *Camellia japonica* in 171 clones, nearly complete collections of Yerkes, Pericat, Merritt, Ghent, and Mollis azaleas, 25 hybrid poplars, and a wide range of miscellaneous woody-plant materials.

Aproximately 3,000 plants have been added to the permanent plantings, particularly in the Cryptomeria Valley and Holly areas. Elsewhere, 123 crabapples were placed to form the nucleus of a new collection facing on Bladensburg Road; 130 hybrid rhododendrons were planted below the azalea area and adjoining Beech Spring Pond; and dwarf rhododendrons and plants of Calluna and Erica have started a new site for this class of material.

A research program directed toward the improvement of ornamental and economic woody plant stocks has received marked impetus during the past year. Initial work has been in connection with four well rep-

resented plant groups—hollies, magnolias, rhododendrons, and azaleas. Necessary background data have been secured on the limits of effective interspecific pollination in hollies. One hundred and five crosses have been made among 15 species of holly and 40 crosses among 12 species of magnolia. Investigations on seed and cutting propagation are in progress within these groups.

BOLL WEEVIL RESISTANCE TO INSECTICIDES

During 1955 farmers in several areas in Louisiana, in the South Delta area of Mississippi, and in a small section of southeastern Arkansas failed to control the boll weevil with the recommended chlorinated hydrocarbon insecticides. This occurred despite the fact that in many cases the dosage was doubled or trebled and the interval between applications was reduced from 5 to 2 or 3 days. Research showed that boll weevils from these areas had developed a high degree of resistance to the chlorinated hydrocarbon insecticides. This situation could have a terrific impact on cotton production.

A new phosphorus insecticide, Bayer 17147, is an extremely promising substitute for control of boll weevils resistant to the recommended chlorinated hydrocarbons. Research is underway to determine if this new material can be used to control cotton insects without causing excessive residues in cottonseed products used for human food and animal feed.

CONTROL OF HORNWORMS IN TOBACCO

Hornworms are one of the most serious pests of tobacco. Cooperative experiments in North Carolina have shown that in tobacco fields where artificial shelters were installed for the use of predaceous wasps, the potential damage by hornworms was substantially reduced as a result of the beneficial activities of these natural enemies. In the fields where the wasp shelters were used, the number of hornworms was reduced 58 percent, and their damage 48 percent, in comparison with check fields. The experiment suggests the use of artificial shelters in tobacco fields to attract and protect predacious wasps may provide a practical and inexpensive means of effecting reduction in damage caused by hornworms.

PATHOGENS FOR INSECT CONTROL

Research on insect pathogens is underway to develop effective and practical ways to control various destructive pests. Limited laboratory and field tests with various virus diseases have given favorable results in control of tent caterpillars, corn earworm, cabbage looper, and Virginia pine sawfly. Bacterial diseases transmitted by nematodes have also given promising results for control of codling moth on apples, corn earworm, pink bollworm, and other insects.

CONTROL OF CATTLE GRUBS

Recent research has shown that when administered orally to cattle Dow ET–57, a new phosphorus compound, will destroy larvae of cattle grubs in all stages of development in the animal. This indicates that a single treatment might be developed for controlling this

very damaging livestock pest. Although other insecticides have been found during the past several years that will kill grubs after reaching the back of the host, this is the first compound that will cause their destruction before the larvae penetrate the hide and damage the meat beneath the hide. Both the northern grub (*Hypoderma bovis*) and the southern grub (*H. lineatum*) are susceptible when cattle are given the compound orally at the rate of 100 mg/kg (approximately 1.6 ounces per 1,000-pound animal). The possibility of adverse effects to animals has not been fully explored. Studies with the radioactive insecticide showed some storage in the fat of cattle but it diminished to low levels in about 2 to 3 weeks. It is rapidly eliminated from the animal body in the urine. Perhaps of even greater importance are very preliminary results which indicate that another systemic phosphate, Bayer 21/199, destroys grubs when applied as a spray.

EUROPEAN CORN BORER CONTROL

As a result of several years' tests, conducted in cooperation with the Iowa Agricultural Experiment Station, DDT granules at the rate of three-fourths pound per acre have been recommended for control of the European corn borer. In preliminary tests heptachlor and EPN in the form of granules have also given as good or better control than the standard DDT emulsion spray. The granules readily roll into the whorls and leaf sheaths where young borer larvae feed. The best one-application control was obtained by applying the granules with a seeder-type duster at or just after the peak number of corn borer eggs have hatched. With the use of granules, the amount of DDT residue left on parts of the plant consumed as forage is much lower than that following the application of the insecticide in the emulsion spray.

HALOGETON CONTROL

Explorations for beneficial insects to combat the noxious weed *Halogeton glomeratus* have been carried on in Spain, Syria, Iran, Afghanistan, and northwest India. A station has been established in Iran to test promising insects on plants of economic importance, and those showing suitability will eventually be introduced into the United States in efforts to control halogeton.

INSECTICIDES FOR COTTON

Bayer 19639, the di-thio isomer of demeton, was widely tested for systemic activity as a seed treatment in field plots in comparison with Thimet during 1956. Both treatments gave control of thrips, aphids, spider mites and white flies for periods of from 3 to 7 weeks. In general, Bayer 19639 was less phytotoxic at the 1 pound per acre rate and its residual effectiveness about 1 week shorter than Thimet at the same rate. When the rate of Bayer 19639 was stepped up to 2 pounds per acre, however, its phytotoxic effects were similar to that caused by Thimet at 1 pound, but its residual effectiveness was about a week longer than Thimet.

In continuing tests with conventional type insecticides, Guthion (Bayer 17147) was the most promising new insecticide for cotton insect control. Small plot and large-scale field tests conducted dur-

ing 1956 verified last year's preliminary determinations of the outstanding effectiveness of this new insecticide. At all locations where it was tested against both chlorinated-hydrocarbon resistant and nonresistant boll weevils it gave good control. It was also highly effective against the pink bollworm, cotton aphid, spider mites and several other cotton pests.

Mr. WHITTEN. Will you now discuss your increases.

INCREASES RECOMMENDED

Dr. QUISENBERRY. The first item of increase is for $78,000 to strengthen the plant disease warning service to growers and to expand basic research on plant disease organisms.

PLANT DISEASE REPORTER AND WARNING SERVICE

In our organization we put out what is called the Plant Disease Reporter. This Plant Disease Reporter, which is now in its 41st volume, carries current information on plant diseases that are developing. It carries information which must be gotten out quickly to the plant pathologists over the country. At the present time, there is more information available than we are able to publish in the report, and it is needed by more and more research workers all the time as this work increases.

In addition to the Plant Disease Reporter, we have a warning service that is put out during the growing season. We give warning service on such diseases as late blight of potatoes and tomatoes, tobacco blue mold, downy mildew on cucurbits, and downy mildew on lima beans.

The report is put out every 2 weeks during the growing season, and then it is sent to about 125 cooperators. They in turn reproduce the report and make it available to county agents and growers and others so they know whether they should spray or take steps to avoid the diseases which might appear.

To strengthen the warning service as well as the Plant Disease Reporter, we are requesting an increase this year. Also, some suggestions have been made that we include apple scab in this warning service. With the possible coming of chemical control of stem rust, there is some interest in the inclusion of stem rust of cereals in the service.

PLANT DISEASE ORGANISMS

Also as a part of this item of increase, is the support for the national fungus collection. The national fungus collection is a large collection of fungi causing plant diseases. We have one of the largest collections in the world devoted to plant disease fungi. We have some six hundred thousand specimens in the collection.

This collection is used as a reference collection to compare new diseases which may appear, in this country, or new diseases which might be troublesome if they got in. It is sort of a reference library, if you will. To make the material usable it must be properly classified, and it also must be accessible. Our collection is badly in need of more attention and more care to have it serve as this reference collection to back up all of our plant-disease work, especially to back up our Plant Disease Reporter and our plant disease warning service.

NATIONAL SEED STORAGE LABORATORY

Our next item of increase of $103,000 is for the staffing and operation of the National Seed Storage Laboratory. You will remember that last year the Congress gave us $450,000 to construct the National Seed Storage Laboratory. Fort Collins, Colo., was chosen as the location.

I believe, Mr. Chairman, that we had a rather thorough discussion of this seed storage laboratory at the committee hearings last year and I assume that the committee is well acquainted with the purposes.

Mr. MARSHALL. How near completion is it?

Dr. QUISENBERRY. We have the plans completed, the architectural drawings are being completed, and we are hopeful of advertising for bids in the near future. We hope to get the laboratory in operation in calendar year 1958.

Mr. MARSHALL. Why would you be asking for funds for staffing it now?

Dr. QUISENBERRY. There will be some equipment to purchase, as well as supplies and materials. I may have been a little pessimistic on our plans. We should be ready about January 1, 1958. The funds for staffing would be used as indicated, and this staff will maintain the seed stocks which they will need to revitalize and regrow at periodic intervals. Also, they will initiate research to determine the optimum factors contributing to storage life.

One of the main things we want to do in this laboratory is to maintain our seed supplies as long as possible. You will realize that we have thousands and thousands of items in this collection, and it is no small job to keep them in a viable condition.

Also, from the funds that are supplied for this laboratory we will need to contract or pay for the growing or regrowing of these seed stocks. We visualize that this laboratory will store seed of all important crop plants in the United States, and the material, the germ plasm, will be available to all the plant breeders, whether State or Federal or whether they are bona fide plant breeders working for the commercial companies.

Mr. MARSHALL. How large a staff do you contemplate having?

Dr. QUISENBERRY. It contemplates a staff of 12 people. There are 2 physiologists, 1 agronomist, 2 mechanics, and 5 clerk-typists, a scientific aide, and a custodian. There will be a tremendous amount of clerical work keeping the records.

Mr. MARSHALL. When would you contemplate putting these people on the payroll?

Dr. QUISENBERRY. Depending on the progress of the laboratory, we would hope to have them on the job by January 1, 1958. There is a great deal of work that must be done as soon as possible, Mr. Marshall, in assembling the seed material that is scattered around in many places, getting it cataloged and deciding what needs to be put into storage. Also, these employees will need considerable training for the special job.

Mr. MARSHALL. Thank you.

ENTOMOLOGY RESEARCH

Dr. QUISENBERRY. Those two items I have just mentioned are in "Horticultural crop research." The third item is an increase of $208,000 under entomology research to expand research on biological methods and commodity and other treatments for control of destructive insects.

It has been mentioned here, today, that we have come a long way in controlling insects by the use of chemicals, resistant plant varieties, and cultural practices.

We also know that by use of biological methods that we also can control some insects. Now, in biological control we use parasites, predators, and diseases of the insects. All of these are extremely important.

The use of insecticides in the controlling of insects has been good in most cases. However, we know that insecticides are costly. We know that in some cases they may leave residues, and we have been very conscious of residues lately. We also know that insects may build up a resistance to the insecticides. We know that insecticides sometimes destroy natural enemies, and they may destroy the natural balance of insects.

The effect on honey bees may be serious which may have some influence on the pollination of seed bearing plants. If biological control could be used, it would certainly reduce the cost of insect control.

We know from past experience that natural enemies do control certain insects such as citrus black fly in certain areas of Mexico, and the mealy bug on citrus in California. I believe that the control of the mealy bug was the first instance of control by natural enemies, and that was by the ladybird beetles.

Mr. HORAN. We have used the ladybird beetles on aphids for years.

Dr. QUISENBERRY. And the ladybird beetle is also one of the important enemies of the alfalfa aphid. It has aided in the control of other insects. We know also that insects can be attacked by viruses, bacteria, fungi, and nematodes.

So far as we know, no parasite has been used that is injurious to man, so we get away from the residue problem.

Now the plan for the use of the funds which we request in this field would be to (1) search Europe and the Near East for more samples of predators, (2) to use parasites on numerous crops such as the alfalfa aphid, army worms, Mexican bean beetle, tobacco budworm, corn earworm, sugarcane borer and possibly others, and (3) to find diseases that might attack the cabbage looper, the codling moth, corn earworm, tent caterpillar, and many insects.

NEED FOR COMMODITY TREATMENTS FOR INSECTS

With regard to commodity control, we know many commodities such as fruits and vegetables are being shipped, and with our rapid transportation at the present time this brings up a real danger of moving insects from one place to another.

Possibly that is one reason why the Mediterranean fruitfly, the Japanese beetle, the pink bollworm and alfalfa aphid have got in and become established in this country.

The problem is to destroy the insect in the commodity without spoiling the commodity or product. We have some work underway in this field at the present time but we feel there is a serious need for more effort, especially in finding better methods of fumigation, better methods of heat treatment, and possibly even better mechanical methods of treating the product if that is possible—the chopping up of cotton stalks is an example. We need to initiate work on a large number of insects on which we are doing a very little at the present time.

Mr. Chairman, that completes the three items which come under crops research.

TOTAL FUNDS FOR CROPS RESEARCH

Mr. WHITTEN. I think you make a good case for these particular problems and we can all see the merit of them. What was your total amount of money for 1957 for your whole operation?

Dr. QUISENBERRY. $17,318,000, including the two new buildings.

Mr. WHITTEN. Eliminating the buildings that leaves you where you are operating on a budget of around $16½ million in this whole field?

Dr. QUISENBERRY. $16,543,000, in 1957.

Mr. WHITTEN. The question is whether, with that big a fund, you have investigated fully the possibilities of shifting people you already have into these new fields.

What effort has been made prior to submitting these budgets to see whether the meeting of these major problems could not have been undertaken by the declining activities in some other phase of your operation?

Dr. QUISENBERRY. Mr. Chairman, I feel that we have done that in a very careful way. We have surveyed our field, and we have made certain changes. Some work has been eased off, other work increased. It is our belief that these are places where we have not found it possible to make the necessary shifts to give the needed support.

Mr. WHITTEN. Mr. Marshall.

FORAGE CROP RESEARCH

Mr. MARSHALL. Under your definition of field crops, does that include forage crops also?

Dr. QUISENBERRY. Yes, sir.

Mr. MARSHALL. What are you doing on forage crops?

Dr. QUISENBERRY. We have a good program going in forage crops, working on about 25 of the some 130 forage plants growing in the United States. We are also doing work on pasture management, meadow management, grass breeding, and are working on clovers, alfalfas, lespedezas, and other forage plants.

Mr. MARSHALL. Do you believe you are making as rapid progress in the forage field as you are doing in the cereal crops in the course of your research program?

Dr. QUISENBERRY. Mr. Marshall, forage crop improvement did not get started as early as cereal improvement—for example, wheat, oats, and barley. It was 15 or 20 years later in getting underway.

Considering that, I think that the forage crop work is catching up very rapidly and we are obtaining some very fine results. In some cases we have rather difficult plants to work, encountering self-sterility,

the need for cross-fertilization, and much isolation. Also many of the crops are perennial in growth habit.

The next point is that we have a large number of plants on which we must work, but we do feel that we are making very good progress. We have had some new developments in the field, new techniques that are being used. Even development in this field of hybridization. Hybrid forage varieties may soon be developed. You will remember, Mr. Marshall, we got a rather sizable increase in appropriations for 1957 and we are now in the process of getting that work underway.

Mr. MARSHALL. You feel that the work you are doing on forage crops is proceeding as expeditiously as it might under the circumstances?

Dr. QUISENBERRY. I feel that at the present time, as Dr. Shaw said awhile ago, that we must get into operation and get going on our present program before we will be ready to consider what further expansion might be needed. At the present time I believe we are being adequately taken care of; yes, sir.

Mr. MARSHALL. Thank you.

PERSONNEL FOR CROPS RESEARCH

Mr. WHITTEN. Doctor, before we move further, I believe I should have you put in the record at this point your personnel in 1956 and 1957 and the total number of personnel you contemplate for fiscal year 1958.

Dr. SHAW. We will supply that.

(The information requested is as follows:)

Salaries and expenses, Agricultural Research Service

	Man-years		
	Fiscal year 1956 actual	Fiscal year 1957 estimated	Fiscal year 1958, estimated
Crops research:			
Field crops	855	1,052	1,092
Horticultural crops	569	637	674
Entomology	654	755	799
Total, crops research	2,078	2,444	2,565

NEW VEGETABLE VARIETIES FOR KENTUCKY

Mr. NATCHER. I am interested in your statement concerning new vegetable varieties. In my home State in 1955 we realized from all agricultural commodities $533 million, with 44.9 percent of this total from tobacco.

What new vegetable varieties could you suggest to me that would be available for my part of the country, Doctor?

Dr. QUISENBERRY. You don't mean something entirely different. You mean new varieties of the same crops, carrots, potatoes, and so on—I do not have that on the tip of my tongue but I can supply that for the record.

Mr. NATCHER. If you will submit a short statement, I will appreciate it.

(The information requested follows:)

NEW VEGETABLE VARIETIES SUITABLE FOR KENTUCKY

Spinach: Early Hybrid 7
Cabbage: Yellow Resistant Charleston, Wakefield
Tomatoes: Southland, Pritchard, Marglobe
Watermelons: Congo, Charleston Gray
Lima beans: Fordhook 242
Snap beans: Contender, Wade, Topcrop
Onions: Beltsville Bunching
Potatoes: Boone, Plymouth, Katahdin, Kennebec, Sequoia
Leaf lettuce: Slobolt, Salad Bowl
Sweet corn: Golden Cross Bantam
Garden peas: Wando

SPREADING DECLINE OF CITRUS

Mr. HORAN. May I inquire on the progress we are making on a subject that has been before this committee for several years as a known disease, since 1951, I believe, what progress you are making in surveying the extent of it and arresting the spread of the burrowing nemotode in the citrus industry in Florida?

Dr. QUISENBERRY. May I address myself to the research part of it: You are referring to the nematode with relation to spreading decline of citrus.

Mr. HORAN. Yes.

Dr. QUISENBERRY. We are continuing our work at Orlando, Fla., on the burrowing nematode trying to find ways to control it. We are cooperating with the Lake Alfred, Fla., station. As yet, I believe we have found no chemical that can be put on the soil to stop the nematode and not injure the host plant, the tree. Some time back there was some evidence that we had found some rootstock material that was resistant, but I don't believe that has been definitely proven. To the best of my knowledge, the method still used is to pull out the orchard, fumigate the soil, and then replant new trees after a waiting period.

Mr. HORAN. Which is very expensive?

Dr. QUISENBERRY. It is very expensive. We are most hopeful that we will soon, somehow, someway, find some other treatment.

Mr. HORAN. What is properly before us now is the research in that field. That work is going on now?

Dr. QUISENBERRY. Yes, sir.

RESEARCH ON NEMATODES

Mr. HORAN. It is my understanding—correct me if I am wrong—that nematology is an important new science we haven't had with us too long; is that right?

Dr. QUISENBERRY. We have had nematodes with us for some time but we are now realizing their importance. We have had an increase in the 1957 budget, and a small increase in the 1956 budget for our nematode work. Secretary Peterson commented on the new nematode on soybeans that has recently been discovered in Tennessee and Missouri—we knew it was in the Carolinas.

Mr. HORAN. This is an atomic age. I understand there are literally uncountable numbers of these nematodes, both good and bad; am I right?

Dr. QUISENBERRY. That is correct.

RESEARCH ON RANGE GRASSES

Mr. HORAN. We are just learning about some of that. That brings up the basic importance of all research, I guess, to find out things we don't know. Would you care to discuss the research you are doing on range grasses?

Dr. QUISENBERRY. With the increase in the 1957 budget, we increased our work on range management by $180,600, Mr. Horan, and we are increasing the work in that field, trying to find better adapted grasses, better means of getting stands of those grasses, and then learning more and more about how to maintain the stand in as productive a capacity as possible.

Mr. HORAN. Are there men in your shop working on the Great Plains experiment?

Dr. QUISENBERRY. In the Great Plains area? Yes, sir.

Mr. HORAN. So far as we know now, some of that land that is being experimented on, to see if they can't find an agriculture that would survive there, some of that land will have to be put back into range grasses, if possible; isn't that true?

Dr. QUISENBERRY. We have been working on that area at Woodward, Okla., in Kansas, and in North Dakota. There is another location in eastern Colorado.

Mr. HORAN. I don't know how much information I would care to have on this. I am just happy to hear that you are doing this work. As we move into the future, Dr. Shaw told us, in our preparing for the future, one of the three steps he mentioned in his excellent statement he gave to the committee—as we move into the future we will find other lands, I expect, as far as our meat supply is concerned, would be better readapted to range land; isn't that true?

Dr. QUISENBERRY. That is correct.

Mr. HORAN. Your experiments will be wide enough climatically, to accommodate any move in that direction?

Dr. QUISENBERRY. We hope so. We try to make our work apply to as broad an area as possible, Mr. Horan. One of the things we are doing at the present time is trying to find legumes that will do better in the dryland areas.

Mr. HORAN. I have heard of the dryland alfalfa.

Dr. QUISENBERRY. We are always hoping we can find something new and better that will apply.

SEARCH FOR NEW GRASSES

Mr. HORAN. How many men do you have in the field searching for new grasses?

I understand a great number of these grasses have come from Turkey and the eastern part of the Mediterranean.

Dr. QUISENBERRY. I don't believe I can tell you, Mr. Horan.

Mr. HORAN. You can supply that for the record.

(The information requested follows:)

SEARCH FOR NEW RANGE GRASSES

During the past season four scientists engaged in plant introduction work were in the field collecting grasses and legumes. Two of them were in Western Europe and made collections from the grass breeding stations there. They collected wild plants in Spain and Switzerland. Excessive rainfall and cold

weather seriously handicapped the collections in the wild. The other two men on this fieldwork made collections of grasses and legumes from western Canada to obtain species for the Western States. Their material was assembled at Pullman, Wash., for propagation and distribution.

Dr. QUISENBERRY. We have had several expeditions at various times—in Turkey and other places in the world. They go out for a while and look for numerous plants. I will have to look that up to see if we have some out now.

Mr. HORAN. That is all, Mr. Chairman.

Mr. WHITTEN. Mr. Andersen.

RESEARCH ON ONIONS AND POTATOES

Mr. ANDERSEN. What are you doing on onion and potato research?

Dr. QUISENBERRY. We have quite an extensive program on onions, developing better yielding, better keeping, and better tasting varieties—primarily hybrid onions. A great deal of that work is in Texas. Dr. Jones and his associates have developed the hybrid onion, as you know, and many of these varieties are very good onions of market type. As I remember it, you were along at one of our tours at plant industry station not so long ago when Dr. Jones showed some of these very fine types. You were not along at that time?

Mr. ANDERSEN. No.

Dr. QUISENBERRY. We have a broad program trying to develop potatoes that are better in yield, that are better in disease resistance, and insect resistance and also producing potatoes of better quality, for various food uses. Each year in different parts of the country, in cooperation with the various experiment stations, we release new varieties.

SHRUB AND FLOWER BREEDING

Mr. MARSHALL. Doctor, you have under your supervision the work that is being done on the breeding of shrubs?

Dr. QUISENBERRY. Yes, sir, we have a section of plants for landscaping and ornamental purposes that has to do with the growing of shrubs and flowers. Also, the National Arboretum is a part of our Horticultural Branch. As you know, we were given some increases for the arboretum in the last 2 years, and some very extensive improvements are now underway. We are building new roads and new trails, a new service building, and some restrooms. We are planning to have the arboretum open the year around, beginning this fall.

NATIONAL ARBORETUM

Mr. MARSHALL. I would like to compliment you on what I consider to be excellent work that is being done out there in the breeding of azaleas and also other things. Washington has publicized its cherry blossoms, but to the thinking of my family, the azaleas far exceed the beauty of the cherry blossoms.

Mr. HORAN. Besides, it is local.

Mr. MARSHALL. And the work being done in propagating new varieties is of great benefit to not only the Washington area, but to the United States. There are beautiful varieties and some that are more hardy. I am getting into your field now, Doctor, but I have

been very much impressed with the fine work you have done out there under rather curtailed circumstances.

Dr. QUISENBERRY. Thank you very much, Mr. Marshall. We feel that we do have a very nice showplace. We also feel we are getting some very valuable information on azaleas and on other types of plants. We have a very nice collection of hollies and other plants. Dr. Skinner, who is in charge of the arboretum, is doing an outstanding job.

RESEARCH ON AZALEAS

We often think of azaleas as being short-seasoned plants. Dr. Skinner told me the other day when I was out there that he is working on developing azaleas that will bloom later in the summer, and that he made his last pollination last summer in mid-August.

Mr. WHITTEN. I would like to join with Mr. Marshall in saying that the sheer beauty of the arboretum exceeds the beauty of the cherry blossoms. Even though some varieties of azaleas don't last too long, I think by having different varieties, you have had azaleas in bloom practically all summer. Do you hope eventually to do it with the one plant?

Dr. QUISENBERRY. We will still need more than one plant, Mr. Chairman, but we will keep them going a little bit longer, yes sir.

KEW GARDENS

Mr. HORAN. I would like to join my two colleagues who have commented on the arboretum. It has been something that has been rather difficult for this Subcommittee on Appropriations, but I think it is underway now, and to anyone who has visited the Kew Gardens near London—and I have been there twice—it is quite an experience. I assume we will have something at least approaching that, as the arboretum is further developed.

For those who have not visited the Kew Gardens, I have to say you have something ahead of you to see.

Dr. QUISENBERRY. I have never been there, but from pictures I have seen, I think that would be a real goal to approach.

Mr. WHITTEN. We might ask that pages 61 through 63 of the justification be included in the record at this point, in conjunction with questions raised about the arboretum.

(The information referred to is as follows:)

DEVELOPMENT PROGRAM FOR THE NATIONAL ARBORETUM

LEGISLATIVE AUTHORIZATION

Under the act of March 4, 1927 (20 U. S. C. 191–194), the Secretary of Agriculture is authorized and directed to establish and maintain a National Arboretum for purposes of research and education concerning tree and plant life. A council created under section 4 of this act advises the Secretary of Agriculture on planning and developing the National Arboretum.

STATUS OF DEVELOPMENT PROGRAM

The National Arboretum occupies a site of approximately 400 acres in the District of Columbia. Basic developmental work has largely been done. A program of long-term development, involving the expenditure of $3,365,243 for roads, trails, buildings, greenhouses, etc., to bring the arboretum to a fully functioning condition was developed in 1947 in cooperation with the National Arboretum Advisory Council. Progress was slow, however, until $150,000 was provided for fiscal year 1956 for road construction. An additional $127,430 provided in fiscal year 1957 brought the development funds to $277,430, and the operation and maintenance funds to $222,570, a total of $500,000. Further road construction and surfacing is now in progress, as well as the construction of a vehicle storage and service building and two public comfort stations. Continuation of funds at the same level is being requested in the 1958 budget estimates of the Department of Agriculture. In fiscal year 1958 the expenditure of $177,000 will permit virtual completion of grading and surfacing of all roads, parking areas, and overlooks, including 2 bridges required in such construction, as well as the provision of additional foot trails for public access; $20,000 will be used for stream-channel correction, provision of a watergate, and replacement of fencing lost through previous erosion; $10,000 will be used for 2 open-sided public shelters and for drinking fountains; $40,000 for revision of plans for the needed headquarters and laboratory building. The present allotment for operation and maintenance will be increased by approximately $30,000 to permit more rapid development of the plant collections and to meet additional operating and maintenance costs.

To complete the development program in future years there will remain the headquarters and laboratory building, which will include rooms for the herbarium (now housed at Beltsville), greenhouses, two residences (for resident guard and plant propagator in charge of the greenhouses), entrance gates, and extension of foot trails and utility facilities.

During fiscal year 1956 the arboretum was fully open to the public, with guards in attendance, for 5 weekends, beginning in mid-April, primarily during the azalea and other spring flowering season. Upward of 40,000 persons attended during this period and many additional groups and individuals have been received by appointment throughout the year. With the current provision of roads, parking areas, and comfort stations, it is expected to have the arboretum fully open to the general public by the fall of calendar year 1957.

A summary of the estimated cost of the development program is shown by the following table:

National arboretum

	Obligations, 1948-55	Obligations, 1956	Estimated obligations, 1957	Budget estimate, 1958	Future years	Total
A. Development of physical facilities:						
1. Acquisition of land	$286,185					$286,185
2. Preparation of plans and specifications for buildings, roads, and other facilities	135,100			$40,000		175,100
3. Buildings:						
Headquarters office and laboratory buildings providing rooms for a herbarium, library, group meetings, exhibits, and offices, and designed for future extensions					$1,200,000	1,200,000
Greenhouse facilities					291,000	291,000
Residences (2):						
Propagator's residence					23,000	23,000
Guard's residence					19,000	19,000
Entrance facilities:						
Guardhouse, restrooms (including sewer lines and septic system)	20,000		$31,000			51,000
Entrance gates, drinking fountains, public shelters, etc.				10,000	50,000	60,000
Service buildings:						
Motor-vehicle buildings and shop			65,000			65,000
Farm machinery buildings	18,000					18,000
Total, buildings	38,000		96,000	10,000	1,583,000	1,727,000
4. Roads:						
Roads (7.5 miles), bridges and roadside grading	146,700	$150,000	140,000	150,000	55,000	641,700
9 miles of footpaths and trails, parking areas and overlooks	16,000		10,000	27,000	125,000	178,000
Total, roads	162,700	150,000	150,000	177,000	180,000	819,700
5. Utilities: Water supply, sewage, and electric lines	92,900				47,000	139,900
6. Equipment	24,500				30,000	54,500
7. Fencing, grading, repairs, and miscellaneous	104,858		31,430	20,000	6,570	162,858
Total, physical facilities and land	844,243	150,000	277,430	247,000	1,846,570	3,365,243
B. Operation and maintenance	923,139	222,570	222,570	265,500	[1] 400,000	
Total, National Arboretum	1,767,386	372,570	500,000	512,500		

[1] Per annum.

ARGENTINE FIRE ANT

Mr. WHITTEN. I have had several requests made of me about particular matters which I agreed to take up with the Department. The first is from my own State, where the president of the Mississippi Farm Bureau has asked me to make inquiry and see what further effort could be made to handle the Argentine fire ant. The pertinent part of his letter reads:

You will recall we discussed the damaging effect that the Argentine fire ant is having on much of Mississippi. Though this pest has been in some sections for sometime, it has spread very rapidly, causing great concern in north and northeast Mississippi. We have had a number of requests from counties in that

area to see if something could be done to eradicate or at least control the ant. I have not discussed this with the head of the State extension service since returning from Washington, but understand there have been so many complaints he is endeavoring to determine how he might make a start toward the control. He informed me several months ago Federal funds were used for several years.

What funds do you have in this field, and what have been your findings? I would also like to know what you feel your department might be able to do in perhaps strengthening this work. Do you feel there is any hope for eradicating it?

Dr. QUISENBERRY. Dr. Knipling is here, if you would care to have a statement now.

Mr. WHITTEN. I would like to have you do it a little more thoroughly than perhaps you could do just off the cuff. So I believe I will let you put it in the record.

(The information requested follows:)

STATEMENT ON IMPORTED FIRE ANT

The request undoubtedly has reference to the imported fire ant which differs from the Argentine ant that occurs in the South.

The imported fire ant was first recorded in the United States in Alabama in 1930. Its native home is in South America. By the mid forties the ant had spread into a number of areas in Alabama and Mississippi and was causing increasing concern to farmers and others in the heavily infested areas.

The imported fire ant lives in colonies in the soil and constructs mounds that may reach a height of 2 feet and a diameter of 3 feet. Thousands of ants live in a single colony. They are fierce in their attack and cause intense pain with their sting. The ants feed on either plant or animal material. Due to their large numbers and aggressiveness, they can do serious damage to small animals. Losses are suffered among wild game, young poultry, and even new born calves and pigs. Poultry and ground nesting game birds are especially vulnerable to attack at the time they hatch from the egg. The mounds constructed by the ant are a hazard to farm equipment particularly in harvesting hay, grain, and other crops.

The insect is destructive to a variety of plants including vegetable crops, pasture grasses, and cereal and forage crops. When present in fields such as corn or other farm crops, they are also a serious pest to farm workers, particularly during harvest.

In view of the importance of the pest, funds were appropriated by Congress beginning in fiscal year 1950. Additonal funds were allocated from regular Department funds to carry out a more extensive program. A station was established at Spring Hill, Ala., near Mobile, to initiate research on the biology and control and to undertake intensive surveys to determine the distribution and extent of damage caused by the pest. The States of Alabama and Mississippi cooperated in these investigations.

Information on funds devoted to these investigations each year during fiscal years 1950 to 1953 inclusive is given below:

Fiscal year:	*Obligated*
1950	$24,482
1951	25,359
1952	20,725
1953	15,400

The major objectives of the research and survey investigations were:

1. To obtain information on the extent of spread of the ant and the intensity of infestation in areas where it occurred as a basis for determining if eradication of the ant was feasible provided effective means of destroying the colonies could be developed in the research program.
2. To obtain information on the life history, habits, methods of spread, and precise information on damage caused by the pest.
3. To develop effective means of destroying infestations.

Research was terminated at the close of fiscal year 1953. The major findings resulting from this program are itemized below:

1. The investigations showed that by 1953 the insect had spread to 10 States. Large areas heavily infested with ants occurred in Alabama, Mississippi, and Louisiana. Smaller but more localized infestations were present in seven other States (Texas, Arkansas, Tennessee, North Carolina, South Carolina, Georgia, and Florida).

2. It was determined that the insect could be spread in many ways, by flight of swarming queen ants, by vehicle traffic, through shipment of infested soil or nursery plants, and possibly by other means.

3. The pest was causing important losses due to damage on vegetables, small fruit trees, seeded grains, pastures, and to animals. The obstacles to farm operations due to the mounds and the nuisance to farm workers added to the importance of the pest.

4. It was determined that certain insecticides applied either as dusts or sprays to individual colonies or entire infested fields were effective on an annual basis. Crops under attack could also be protected by applying the insecticides directly to the plants. Chlordane, aldrin, dieldrin, and heptachlor were the most effective materials tested. Treatment cost $2.50 to $5 per acre for materials and labor depending upon the intensity of the infestation. The effectiveness of control in a given field depends upon the amount of infestation existing in adjoining pastures, roadsides, and fence rows. A United States Department of Agriculture publication (Leaflet No. 350) titled "The Imported Fire Ant, How To Control It," was issued in 1954.

Information received from State sources indicates that there are now at least a million acres infested. The effectiveness of treatments developed by research led to the belief that the situation could be handled on an individual property basis. It has become evident, however, that this approach is not solving the problem. The imported fire ant continues to spread to new areas and it is rapidly becoming a major pest of both pastures and cultivated crops. Severe damage has been done to wild game, poultry, and even to new-born calves and pigs.

In recent months the problem has been reviewed with a number of State officials and it is to be made a subject for consideration at the southern plant board meeting in Mobile, Ala., early in March. Membership of the southern plant board is composed of representatives of State departments of agriculture in 11 Southern States. This group has been asked to make specific recommendations based on their intimate knowledge of the situation.

For an eradication program to be successful, all infestations must be treated without regard to location, land use, or ownership. Many town and city properties are involved; also stump land, roadsides, and pastures. At the Mobile meeting, consideration is to be given to the need for interstate effort, the adequacy of State legislation for dealing with the pest, and how an areawide program might be financed if such is warranted. Representatives of the Agricultural Research Service will be on hand to participate in the Mobile meeting.

SPIDER MITES IN COTTON

Mr. WHITTEN. Another request I have had is from Congressman Davis of Georgia, who has delivered to me certain correspondence between Mr. Jordan, the Georgia extension entomologist, and other extension entomologists from 10 States in the Cotton Belt. This correspondence relates to cotton pests, the red spider, and spider mites. I have gone over it quite thoroughly. I know you have work going on in these fields. I would like for you to give us a report for the record as to what work is now going on, what the outlook is, and what the expectancy is for funds at the present time.

Dr. QUISENBERRY. We will be very happy to do that, Mr. Chairman.

(The information requested follows:)

SPIDER MITES IN COTTON

The spider mite problem on cotton is a complex one. A dozen different kinds of spider mites attack cotton and what may be an excellent control for one kind may have little or no effect on another. To complicate the matter still further, the use of insecticides to control such pests as the boll weevil and the bollworm often destroy beneficial insects which under normal circumstances usually hold spider mites in check. When insecticides are applied without inclusion of a miticide, conditions become favorable for an enormous increase in the mite populations.

Little is known concerning the relationship of increases in spider mite population due to some of these recent changes in agricultural practices. However, there are indications that changes such as the shift to more grassland agriculture and the more extensive use of both winter and summer cover crops favor an increase in mite populations early in the year which later transfer to cotton growing in the vicinity. This may explain why mites appear to be of increasing importance on cotton during the early growing period.

In some areas spider mites have developed a resistance to certain insecticides which formerly were very effective against them. The extent to which this has occurred on cotton is not known but it is quite probable that this may be another factor in areas where the problem has suddenly become a serious one.

The overall mite problem, therefore, becomes very complex when resistance may be a factor among the dozen or more different species or subspecies involved, when the host-plant relationships are not fully known, and when the effects of various insecticides on the natural enemies of spider mites are not known. Some research on spider mites is in progress at the seven cotton insect field laboratories, but such research has a lower priority than that directed toward the control of more important pests such as the boll weevil and pink bollworm. A special effort is underway to appraise spider-mite problems during the current season and to keep in touch with the State research and extension workers in the cotton States in order that an overall evaluation can be made of the current importance of spider mites, as well as the need for further research to combat these enemies of cotton production.

Mr. WHITTEN. We will recess until 1 o'clock tomorrow afternoon.

WEDNESDAY, JANUARY 30, 1957.

FARM AND LAND MANAGEMENT RESEARCH

Mr. WHITTEN. We have with us Dr. Johnson and his associates who have charge of the research in connection with farm and land management. I see you have an estimated increase of $3 million in this budget. I would be interested in any general statement you might wish to make in which you would point out the highlights of what you have done during the current year. Also, I would like information as to what the increased funds will be used for.

In connection with that, I would like for you to advise us how much money you have had the last several years for your work, and the number of personnel that you have had for the last 2 or 3 years, plus the number you will have under the proposed budget.

Mr. KIRKHAM. May we supply that for the record?

Mr. WHITTEN. Yes, that will be all right.

(The information referred to is as follows:)

Salaries and expenses, farm and land management research

	Fiscal year 1954, actual	Fiscal year 1955, actual	Fiscal year 1956, actual	Fiscal year 1957, estimated	Fiscal year 1958, estimated
Soil and water conservation:					
Amount	$3,397,097	$3,637,963	$3,841,559	$5,391,110	$7,208,400
Man-years	586	622	634	845	976
Agricultural engineering:					
Amount	$1,316,859	$1,521,646	$1,663,587	$1,980,500	$2,317,000
Man-years	212	217	236	279	312
Production economics:					
Amount	$1,247,712	$1,397,964	$1,642,594	$2,526,400	$3,490,800
Man-years	203	210	238	400	518
Total:					
Amount	$5,961,668	$6,557,573	$7,147,740	$9,898,010	$13,016,200
Man-years	1,007	1,049	1,108	1,524	1,806

Dr. JOHNSON. As you have indicated, what is before you is farm and land management research which includes soil and water conservation research, the agricultural engineering, and production-economics research.

Most of the research in these three fields deals with the farm, or the ranch, as a unit. Nearly all research in soil and water, in production economics, and much of the research in agricultural engineering has to be conducted so that it is applicable to specific areas with similar soils and similarity of other opportunities for production.

Now, of course, research, area by area, is more expensive than research, which can be generalized for much broader areas or for the entire country.

The budget increases that are before you in the three branches are directly related, either to recent legislation or to the most urgent problems of agriculture in these transition years.

The increase items for soil and water research relate to the President's Water Policy Commission report, and the need for increased emphasis on water, because of the upper Colorado development and, in general, the watershed-protection program and the water-facilities-loan program.

The increase items for agricultural engineering relate to protection of crops and of food, with more efficient application of pesticides, which was mentioned by Dr. Shaw yesterday; also to equipment for replacement crops.

The production-economics items relate to the need for research background on the soil bank and other production programs, and also to the need for more adequate data on the financial situation of the farmers. We need information on who owns the agricultural assets, who owes the debts, who is buying the land, and what accounts for increases in land values which we have experienced in recent years.

Before justifying these increases in detail, I would like to mention a few items of progress as you suggested.

SOIL AND WATER CONSERVATION

COMPILATION OF HYDROLOGIC DATA

First of all, in the last year we have made very considerable progress on the processing of accumulated hydrologic data, which, as you know, have accumulated over a period of years. The compilation of these data has been completed for about 150 watersheds, and the results

are ready for publication; and, as a matter of fact, they have been forwarded and discussed with the Soil Conservation Service. As soon as the results are available, they will be useful for designing treatments on other watersheds, as well as those to which they are specifically applicable.

IRRIGATION REQUIREMENTS

Another item deals with the interpretation of climatological data toward determining irrigation requirements in the humid areas. That work has been centered primarily in the State of North Carolina, where we have analyzed 25 years of weather records in order to get a background for predicting the need for irrigation at various locations as affected by both the climate and the soil. The amounts of water that are likely to be required may be readily predicted.

PARALLEL TERRACES

A third item involves research on parallel terraces; that is, uniform spacing between the terraces to eliminate point or turn rows. We are saving about 20 percent of the tractor time at McCredie, Mo., with that type of terracing.

WIND-EROSION STUDIES

The fourth item covers a part of our research on wind erosion relating to the kinds of stubble that will hold the soil best and under different tillage conditions out in the plains country.

This work indicated during the past year that wheat stubble was far more effective for reducing erosion of soil by wind in the southern high plains than an equal amount in height of sorghum stubble, which was surprising. Standing stubble was found to be better than stubble flattened.

RESEARCH SHOWS HIGH FLOOD AND SEDIMENT DAMAGES IN MISSISSIPPI

Continued studies on the rates of erosion and sources of sediment in the Yazoo-Little Tallahatchie watersheds, as well as on the behavior of sand-bed streams in Mississippi, show that widespread damage and losses of land by bank erosion are occurring along the flood plains. For instance, along Big Sand Creek, which is a typical "bluff line" stream, good bottom land adjacent to the creek was being lost at an average rate of nearly an acre per year per channel mile. The average annual loss of bank material from approximately 16 miles of the stream was 422,000 cubic yards. The resulting sediment caused downstream damage by deposition in the Yazoo Delta.

GRASSED WATERWAY RESISTS PROLONGED FLOODING

Immediately following an interplanting of Reed's canary grass in an established Bermuda grass waterway in Oklahoma, a flow was maintained for a period of 72 days to determine the hydraulic characteristics and to test the effect of prolonged wetting, such as that which results when channels are used to drain surplus irrigation water or flood flows. The grass mixture thrived despite a continuous flow about 1 inch deep. When subsequently tested under flood conditions, these grasses withstood velocities in excess of 8 feet per second and remained in excellent condition.

CANAL LININGS REDUCE SEEPAGE LOSSES

Research in cooperation with the Utah State Agricultural College and manufacturers of canal lining materials and soil stabilizers shows that seepage losses in canals can be greatly reduced. Field installations of buried plastic membranes carried on at Eden Valley, Wyo., have reduced seepage losses to less than 1 percent of former losses. Similar tests in the same area using soil stabilizers (soil-cement mixtures) reduced seepage losses to about 6 percent of former amounts. Irrigation reservoirs lined with both buried and exposed plastic films have shown that a significant saving in water can be made. Rot tests on buried membranes reveal that the plastic types appear to be superior to asphaltic membranes. The buried films are more efficient and less susceptible to physical damage. A field test using exposed plastic film to line a catchment basin in an arid rangeland area was not successful.

METHOD OF USING AMMONIUM NITRATE IN MIXED FERTILIZERS DEVELOPED

Ammonium nitrate is a desirable fertilizer material because of its ready availability, low cost, and high nitrogen content (35 percent). Use of the nitrate in mixed fertilizers has been seriously hampered, however, owing to its marked tendency to absorb moisture from the atmosphere and thus impart poor physical condition to the mixed fertilizer. Studies of the factors influencing the behavior of mixtures containing ammonium nitrate have shown that its adverse effects can be overcome by granulating the products, reducing their moisture content to a low level, adding a small quantity of an anticaking agent, and packing in moisture-resistant bags. In this way, large proportions of ammonium nitrate can be used in making high-analysis mixed fertilizers which do not harden during storage and which can be applied easily and efficiently in the field.

CHANGES IN LINE PROJECTS

Mr. WHITTEN. I would like to show the total number of your projects, how many new projects you have started in the past year, and how many old phases of work you completed.

Dr. JOHNSON. We will be glad to supply that for you.

(The information requested is as follows:)

Changes in line projects, calendar year 1956, farm and land management research

Item	Soil and water conservation research [1]	Agricultural engineering research	Production economics research	Total
Active projects, Jan. 1, 1956	133	101	88	322
Additions:				
New projects	6	24	41	71
Revised projects	4	6	4	14
Total additions	10	30	45	85
Subtractions:				
Completed	1	9	11	21
Suspended or abandoned	1	1		2
Superseded	7	6	4	17
Total subtractions	9	16	15	40
Active projects, Dec. 31, 1956	134	115	118	367

[1] The increased funds made available for soil- and water conservation research were primarily for expansion of work on going-line projects. These projects are established on a subject-matter basis and are usually active at more than one location. Projects are established to run for a period not to exceed 5 years. A major part of the line projects in soil and water conservation were completely rewritten in 1953–54, when certain research in soil and water conservation was transferred from the Soil Conservation Service to the Agricultural Research Service.

Dr. JOHNSON. Much of the work with respect to the soil and water increases of last year went into better support of work under way. But we did start some new work, especially in the watersheds.

Mr. WHITTEN. You may proceed, Doctor.

Dr. JOHNSON. I will start with the first increase under soil and water conservation research.

WATER MANAGEMENT IN RELATION TO IRRIGATION AND USE

It provides $424,000 to increase efficiency of water management in relation to irrigation. It is based directly on the recommendations of the President's Committee on Water Resources Policy, which stressed the need for additional water research. This was also stressed yesterday by Secretary Peterson and Dr. Shaw.

In the arid and semiarid areas of the West, sometimes as much as three-fourths of the water that is diverted from streams and reservoirs is lost before it reaches the soil root zone.

Seepage losses, poor farm distribution, and overirrigation are some of the reasons involved.

Some of our experiments indicate possibilities in savings of this type. In Nebraska, we compared 5 water applications with 3 applications. With the 3 irrigations about half as much water was used with 90 percent as good yield as with the 5 applications which used almost twice as much water.

In humid areas, as you know, there has been a rapid increase in irrigation in recent years. As a matter of fact in the 31 Eastern States, there was an increase of over 1 million acres irrigated from 1949 to 1954.

The Department has a loan program for extending irrigation in humid areas, and there is a great deal of interest in it in view of the drought in many sections.

We very much need better technical and economic information as a basis for guidance as to when to irrigate under different soil and rainfall conditions.

RESEARCH IN UPPER COLORADO RIVER BASIN

The second increase item in soil and water management research provides for expansion of research in the upper Colorado Basin. This calls for $208,000 in soil and water studies and I will refer to a companion item for economic research of $104,000.

This request is made, of course, in view of the fact that Congress passed Public Law 485 for the development of the upper Colorado Basin. We urgently need predevelopment research on the upper Colorado projects of the type that has been carried on in the Columbia Basin and in the Missouri Basin, in order to prevent costly errors in development. Special soil conditions, involving poor infiltration, drainage, salinity, and fertility are likely to be encountered in some areas.

WATERSHED HYDROLOGY

The third item involves expansion of research in watershed hydrology, $208,000. This is also related to the Water Policy Commission report, and is urgently needed as a basis for an expanding watershed program.

I have here a chart which indicates very crudely where some of the watershed hydrology research is carried on at the present time. You will notice there are a good many gaps over the country.

Information in this field is very limited in the Far West and the entire Northeast. There is also great need for expansion in the South and in the Great Plains.

Research in watershed hydrology over the last several years has been getting very high priority—the highest priority by the Soil Conservation Service in their report on conservation research needs, and also by other agencies. These requests stress the need for better information on (1) the behavior of water in response to various land treatment and watershed programs; (2) economical ways to prevent flood and sedimentation damage; (3) control of sources of silt; (4) improved designs for conservation structures such as developed in hydraulic research laboratories.

SOIL SEDIMENTATION RESEARCH LABORATORY FOR THE SOUTH

The next item was discussed yesterday, Mr. Chairman. It provides $600,000 for construction of laboratory facilities at Oxford, Miss., for expanding sedimentation research in the South. It was stressed yesterday that particularly severe sedimentation problems prevail in the lower Mississippi Valley and that there is a pressing need for expanded research to guide the watershed protection and the flood prevention programs in that area, as well as in the Southeast generally.

Mr. WHITTEN. What size staff do you have there now, Dr. Johnson?

Dr. JOHNSON. I will have to turn to Dr. Wadleigh on that.

Dr. WADLEIGH. We transferred several scientists to Oxford last summer and we have recently engaged a soil scientist, a soil conserva-

tionist, and several aides. The total staff is about 10 at the present time.

Mr. WHITTEN. What is your estimate of the size force you will have, once you get going there?

Dr. WADLEIGH. We anticipate this laboratory will house about 45 people. The work we are doing is closely related to that of the United States Geological Survey and we are cooperating with them in studies on the Yazoo watershed. We feel there should be no duplication of effort and insofar as we can we will also provide facilities and laboratories for them on cooperative work.

Mr. WHITTEN. I think it might be well for you to show in the record the size of these two watersheds, the Little Tallahatchie and the Yazoo watershed, as well as the size of the area in the central South which this center would serve.

Dr. JOHNSON. The region to which some of the work might be applicable?

Mr. WHITTEN. Yes. Show that in the record.

(The information requested is as follows:)

In the Yazoo-Little Tallahatchie River Basin in the State of Mississippi the annual sediment damage is approximately $2,500,000 per year. The area of the drainage basin is about 8,320,000 acres. Roughly half of this 8,320,000-acre area is hill land and the other half is delta area which receives the debris from the adjacent hill land. Streams and valleys are choked with sand deposits from gullied areas throughout the hill land. The hill or ridge land is windblown soil underlain by highly erodible sands (Memphis-Grenada).

The erodible bluff-line soils on the east side of the Mississippi River cover a band 50 to 75 miles wide extending from near New Orleans, La., to Paducah, Ky.—about 500 miles across the States of Louisiana, Mississippi, Tennessee, and Kentucky. Similar problem sediment-producing soils make up Crowleys Ridge on the west side of the Mississippi River in Arkansas and extend southward into Louisiana.

Very similar sediment problems are present in the Piedmont region extending from northern Alabama through Georgia, South Carolina, North Carolina, and into Virginia (Cecil soils and Norfolk sands). Sedimentation of reservoirs, silting of stream channels, and deposition of infertile sands on good bottom-land soils are extensive throughout this part of the country.

UNITED STATES SALINITY LABORATORY

Dr. JOHNSON. The next item provides for construction and alteration of buildings at the United States Salinity Laboratory in California. The amount is $125,000. I investigated that laboratory last summer and I am impressed with the serious overcrowding at the present time. The very fundamental research which has been recognized as making a real contribution to the salinity problems of the Western States is being retarded by lack of space.

They also need additional space for increased use of radioactive isotopes in their research program. This request would provide for a 1-story structure, 40 feet by 100 feet, with standard laboratory fixtures which would cost about $100,000, with $25,000 for alteration of the present building.

Now, unless there are comments, I will turn to agricultural engineering.

Mr. WHITTEN. Do you have any questions on this phase of it, Mr. Marshall?

SUPPLEMENTAL IRRIGATION

Mr. MARSHALL. I was interested in some of the work you were doing on supplemental irrigation.

Dr. JOHNSON. I think Dr. Wadleigh may have a chart you will be interested in looking at.

The work I mentioned in North Carolina is specifically related.

Dr. WADLEIGH. One of the things we are working on, Mr. Marshall, is to determine the number of years out of 10 that supplemental irrigation will pay. We know farming is a gamble. We can't predict the weather. We need to know how often, how many years out of 10, the irrigation would pay in a given area.

Now, days without rain do not alone determine the agricultural drought. The capacity of the soil moisture reservoir is exceedingly important. For example, a sandy soil will hold only about an inch of water per foot of depth. If the roots cannot penetrate more than a foot because of a compacted layer, then the soil moisture reservoir will only hold 1 inch of water.

A silty clay loam will hold about 2½ inches of water per foot. If the root zone goes down 4 feet, it will hold 10 inches of available water.

Here is a chart of studies we made in North Carolina showing how many inches of supplemental irrigation water will be needed in 9 years out of 10 in various parts of the State, if the soil-moisture reservoir will only hold 1 inch of water, 3 inches of water, or 5 inches of water.

Over in the western part of the State, the soil will hold 5 inches of available water, and will need only 1 inch of additional water in 9 years out of 10.

In the eastern part of the State the weather conditions are such that in 9 years out of 10, 8 inches of additional irrigation water would be needed even on a soil that will hold 5 inches of available moisture.

There are also variations among different crops as to whether supplemental irrigation will pay. The information presented here has been published as a North Carolina Agricultural Experiment Station bulletin. We also have manuscripts prepared with reference to Virginia and South Carolina. The data have been collected for Louisiana and Mississippi and we are starting a survey this summer on the Red River Valley area. We are getting this kind of information to show the farmer the frequency with which irrigation will pay.

There have been expensive irrigation installations in the East where a farmer wasn't justified in spending the money because of the crop he was growing, the nature of his soil, or the nature of the climate.

For example, in North Carolina, we have not found supplemental irrigation to pay on soybeans. On tobacco—especially in the eastern part of the State—it has paid handsomely. We are hoping to get more and more information along this line to give the farmer a better basis on the odds against which he is gambling with the weather in the production of his crops.

PROPOSED SUPPLEMENTAL IRRIGATION STUDIES IN MIDWEST

Mr. MARSHALL. Have you been doing any of this work in the Midwest area?

Dr. WADLEIGH. No. The physicist in charge of these studies is located in Raleigh, N. C., and he has concentrated his studies in the

Southeast. Our initial start on this work in the Midwest will be in the Red River Valley area of Minnesota-North Dakota this summer.

Mr. MARSHALL. There seems to be much interest generated up in that area for the need for this type of thing. People are interested in water and soil conservation and those people have been making a number of requests for the information you have in that area, because they seem to be subject to seasons where there is quite a variation in the amount of rainfall received.

Dr. WADLEIGH. Another important point in this work is that we must take into account water surpluses. If the soil-moisture reservoir will only hold 1 inch of water and a 3-inch rain occurs, 2 inches is useless as far as filling that reservoir is concerned. This approach is a new concept in taking into acocunt the storage capacity of the soil-moisture reservoir.

Excess rain only causes more soil erosion. If 1 inch of rain occurs on Tuesday, and a 2-inch rain on Thusrday, the second rain can't be counted as building up your reservoir because the reservoir won't hold it.

Dr. JOHNSON. This, Mr. Marshall, is a fundamental research study for irrigation needs. We also have to take into account the cost of the equipment and the methods that are used for supplemental irrigation. There is always the possibility that after you have finished irrigating, a heavy rain may come and cause trouble from excess water.

These problems, as well as the costs and returns from irrigation, require analysis.

Mr. NATCHER. Dr .Johnson, do you have studies under way at the present time concerning profitable adjustments in farming by type and size of the farm, other than the ones that you described at the time you were up before?

Dr. JOHNSON. That is one of our increase requests in production economics. If you would like to hold that question until I get to that item, it might be well.

COORDINATION OF RESEARCH WITH SOIL CONSERVATION SERVICE

Mr. NATCHER. I am glad to receive that information.

Dr. Johnson, you pointed out studies have been made on some 150 watersheds and that information has been turned over to the Soil Conservation Service. Your research fits right in with the work of the Soil Conservation Service?

Dr. JOHNSON. Oh, yes, very definitely. As I have explained to the committee before, we have a group of liaison workers who are jointly employed by the Soil Conservation Service and the Agricultural Research Service, and they work with the land-grant colleges and other agencies each year to try to determine State by State the conservation research needs. They ascertain—area by area—what problems appear to be the most important for research in soil and water conservation, on the physical aspects, the engineering aspects, the economic aspects, and the crop aspects.

All of our work is made available to the Soil Conservation Service as soon as we get results that we feel are at all reliable, and usually much before a publication comes out.

Mr. NATCHER. Thank you, Mr. Chairman.

COORDINATION OF RESEARCH WITH OTHER AGENCIES

Mr. MARSHALL. Do you coordinate your work with such organizations as the Corps of Engineers in the various departments, and the Department of the Interior?

Dr. JOHNSON. We work with them closely; yes. Of course, the Corps of Engineers is not engaged in research. We work closely with the Geological Survey people who are primarily responsible for ground and surface water exploration. We also work closely with the Bureau of Reclamation in the Department of the Interior.

Mr. ANDERSEN. We are glad to welcome Dr. Johnson and his immediate staff before us. I have always had a lot of confidence in those particular gentlemen. They have come before this subcommittee in years gone by and you have afforded us real information, Dr. Johnson. We don't have to really bore in to get the information we want. You give it to us.

I am also glad to see Dr. Wadleigh here, one of Dr. Johnson's assistants.

VALUE OF RESEARCH

Now, Dr. Wadleigh, I believe you were at Morris, Minn., last September 24, were you not, when Dr. Shaw was there. I would like to read into the record, even though it did go into the record yesterday, I would like to read one paragraph as to what Dr. Shaw stated that particular day. Dr. Shaw said under the heading of "Benefits of Research Program":

> What would be the long-term benefits of such a research program? I believe we can best illustrate this by one example: Tillage research may well show that we can simplify the tillage operations if we conservatively estimate we can save $1 per acre for each secondary tillage operation that is eliminated on the row and grain crops. This would amount to an annual savings to the farmers of the area—

and Dr. Shaw was speaking about the area supposedly to be taken into consideration in this particular facility at Morris, if established—I repeat, "this would amount to an annual savings to the farmers of the area of roughly $60 million."

Now, that to me, gentlemen, points out one thing that we have tried through the years to bring out in this subcommittee and that is the monetary value of this research. Year after year we have listened to you gentlemen from Dr. Shaw on down, and others. We have been impressed by your statements. We have put up the money we thought necessary. Of course, we can always point, Dr. Shaw, to the development of hybrid corn as one of the greatest research returns you might say in the history of our Nation. The development of hybrid corn alone has returned to the farmers of America at least $500 million annually in cash that they otherwise would not have had.

I just wanted to put this in the record, Mr. Chairman. I think we ought to intersperse something in this record once in a while to show the people of America how much this research can accrue to the benefit of all concerned.

I again want to thank you, Dr. Johnson, and your staff for giving us the fine presentation you have.

Agricultural Engineering Research

Mr. Marshall. Will you proceed with the engineering, now?

Dr. Johnson. In the hearing yesterday, Mr. Horan requested that when we got to engineering a statement on some of the results of engineering research should be developed.

I asked Dr. McKibben to prepare something. He had to prepare it very hurriedly, but I will read the titles and see if these are some of the things you would like to see in the record.

Mr. Horan. Bear in mind that agricultural engineering can be of immense help and keep research close to where the farmer lives. I think it is all to the good.

Mr. Johnson. That is what we are trying to do.

EQUIPMENT FOR APPLYING PESTICIDES

The first item that he has here, I think is an excellent development: "Equipment for the application of insecticides and fungicides in low-growing crops."

This equipment was developed in Oregon for use on low-growing crops, primarily potatoes there. During the 1957 season, it will be tested and further developed in the Columbia Basin area of Washington in cooperation with the Washington State Potato Commission. It involves new designs of applicators for insecticides and fungicides on low-growing crops and has been tested in Oregon. Dr. McKibben has received very fine reports from people using these experimental machines.

The next item: "Application equipment for granular insecticides for corn-borer control."

This equipment was developed in cooperation with entomologists in the 1953, 1954, and 1955 seasons.

COTTON MECHANIZATION

A third item, a very considerable amount of work has been done on cotton mechanization. Of course, you can't take mechanization alone. You have to include the work of agronomists on chemical weed control, and entomologists and economists, but this research has helped to cut 2 billion man-hours off the time required to grow the Nation's cotton crop.

The next item "New planting attachment for better emergence of cotton in the high plains."

Then another item on cotton which is the experimental work that is being conducted on roller ginning for extra-long-staple cotton. As you know, extra-long-staple cotton is having quite a special market and one of the problems is to reduce the cost of this type of cotton. If we can do that through both the production and the ginning processes, it will have a market that will be somewhat noncompetitive with the shorter staples.

OTHER IMPROVEMENTS IN FARM EQUIPMENT

Then, "Potato harvesting and handling equipment."

Also, "New grassland seed and fertilizer drill."

Here is one that has been very interesting to me: A "hose pump for metering liquid fertilizers."

It is a very inexpensive machine for applying liquid fertilizers that is adapted to the smaller farm operation.

We have had some experimental work on adapting equipment to "ridge farming."

They also have designed some new portable electric fence posts that make it much easier to move portable electric fences for rotation grazing.

Some work underway showing very important results is the cleaning of grass seed.

A new method for curing Virginia type peanuts will permit substantial reduction in harvesting costs. Then there is the work that has been carried out, at Ames, Iowa, and elsewhere, on mechanical drying of corn, which has permitted the development of field shelling. The use of picker-shellers for the harvesting of corn is coming in very rapidly in the Corn Belt.

The next item I have reported before to this committee, the handling of red cherries in water, which results in a very considerable saving in cherry harvesting.

Also the three-team method of picking apples has been reported before.

Here is a new item: "Orchard handling of apples in bulk boxes." To begin with this was used only for windfall and processing apples; it is now being adapted for the higher grade apples.

Cooling of beef cattle with fans in California, with a considerable increase in gain and a saving in feed. Experiments indicate that Shorthorn calves were very seriously retarded by hot weather.

Mr. MARSHALL. Was one breed more susceptible to the cooling than another?

Dr. JOHNSON. I think they were working on just two kinds.

Mr. MARSHALL. You didn't have the comparisons.

Dr. JOHNSON. No. Just one of the European breeds in comparison with Brahmans.

Development of electric brooder curtains to cut costs for electric brooders; development of electric-light traps for insect survey work; a new type brooding system; laborsaving equipment for beekeepers.

Then there are a whole series of cotton-ginning developments. I can't recall offhand how many patents your ginning research people have developed over the years, Dr. McKibben, but they have been the leaders in the cotton-ginning research needed to go with mechanical harvesting.

Dr. MCKIBBEN. There are 26.

Mr. HORAN. What is the total since the inauguration of agricultural engineering?

Dr. JOHNSON. Total of what?

Mr. HORAN. Total of public patents.

Dr. MCKIBBEN. We would have to supply that for the record. We could also insert an explanation of these accomplishments which Dr. Johnson has mentioned.

Mr. MARSHALL. That may be supplied for the record.

(The information requested follows:)

Forty-two public patents have been issued on inventions developed by agricultural engineering research. Applications for patents are pending on 10 recent developments.

PUBLIC PATENTS ISSUED

1,695,991	Seed-cotton-drying apparatus
1,707,929	Process and aparatus for drying seed cotton
1,707,930	Seed cotton drying apparatus
1,827,183	Process and method for ginning cotton with air-blast gins
1,871,773	Apparatus for drying seed cotton
1,892,250	Apparatus for seed planters
1,929,957	Plow attachments (trash shield)
1,956,676	Down-stalk lifting attachments for harvesting machines
2,002,974	Fractionation device and method for employing the same
2,003,831	Self-alining disk jointer
2,026,499	Seed-dusting machine
2,028,719	Dry material feeding device
2,029,680	Attachment for lister planters
2,045,064	Device for culling and grading seed cotton
2,078,309	Apparatus for drying seed cotton
2,088,237	Holder for bale identification tags
2,107,071	Bale identification tag and a method for affixing the same
2,151,404	Apparatus for determining moisture content of air pervading fibrous material
2,156,893	Cotton sampler apparatus
2,156,894	Cotton sampler for cotton condensers
2,173,071	Machine for sampling cotton
2,189,099	Drying system for seed cotton
2,196,613	Apparatus for determining the percentage, by weight, of linters on cottonseed
2,225,397	Cotton fan
2,230,544	Cotton sampler apparatus
2,264,910	Integrator for circular ordinates
2,269,831	Orchard heater
2,291,093	Machine for harvesting flax and similar plants
2,295,766	Fibrous straw breaking and scutching machine
2,313,791	Deseeding and cleaning machine
2,339,394	Baler
2,365,496	Moisture-measuring instrument
2,460,029	Russian dandelion seed harvester
2,517,597	Peanut-digging machine
2,569,501	Lint cotton cleaner
2,580,451	Stick remover for seed-cotton extracting machines
2,634,461	Cotton-gin cleaner
2,651,812	Cotton turbocleaner process
2,702,843	Proportional time-temperature controller
2,735,226	Method and apparatus for treating cottonseed
2,747,234	Method of moisture restoration to cotton
2,764,013	Apparatus for the restoration of moisture to the fibers of seed cotton

PATENT APPLICATIONS PENDING

2,856	Seed cotton stick extractor
2,928	Method and apparatus for treating cottonseed
2,986	Portable decorticator
2,988	Trash beater for killing pink bollworms
3,202	Apparatus for cottonseed sterilization
3,216	Seed cotton cleaner
3,284	Electromagnetic energy radiation treatment of seed
3,286	Textile fiber sorter
3,298	Honey uncapping rollers
3,302	Roller cotton gin

Some Accomplishments of Agricultural Engineering Research

The Agricultural Engineering Research Branch organizes, develops and conducts broad programs of research in cooperation with public and private agencies on the application of engineering to agriculture with the objectives of improving the machines, structures and facilities used for farm production and rural living, and of improving labor efficiency while making the physical work of farming easier. The findings of one or more of the research projects of this Branch are applicable to almost every one of the approximately 5 million American farms on which equipment valued at about $17 billion and production buildings estimated at about $12 billion are used to produce, store, and shelter an annual output of crop and livestock products worth more than $30 billion. The following are examples of the research activities and accomplishments of this Branch.

Application of Insecticides and Fungicides in Low Growing Crops

A tractor mounted row-crop sprayer and duster has been developed for use in low growing crops, of a design whereby the pest control materials are applied to the undersides of the foliage in addition to the upper surfaces. This work has been done in cooperation with the ARS Entomology Research Branch, the Oregon Agricultural Experimental Station and interested growers.

This equipment is designed for applying pest control formulations as sprays, as dry chemicals, or in combinations of the two methods. Sprays may be applied from overhead or from below the plant's leaf canopy, either separately, together, or in combination with an air blast from below the plant canopy for obtaining better penetration and circulation within the foliage. The performance of this machine was extensively tested to determine the effect of this method of applying insecticide formulations for green peach aphid control in potatoes. The normal habitat of this insect on potatoes is the lower leaves of the plant.

The equipment for applying sprays by this new method of application was accepted very favorably by potatogrowers in the Klamath Falls, Oreg., area. Following a demonstration and test application of the insecticides, three growers contracted with a local machine shop to have duplicates of the sprayer made for use on their tractors. During the 1957 season, research on this development is to be concentrated in the Columbia Basin area of Washington in cooperation with the Washington State Potato Commission.

Application Equipment for Granular Insecticides for Corn Borer Control

Cooperating with Federal and State entomologists during the 1953, 1954, and 1955 seasons, USDA agricultural engineers developed low-cost, effective methods and equipment for the application of granular insecticides for corn borer control. Taking advantage of the funnellike characteristic of corn leaves and the fact that the usual point of borer attack is in the area where the leaf joins the stalk, this method of control gives promise of being one of the most effective—in reduction of borer damage, and in reducing the amount of insecticide needed and of residues remaining on the foliage.

Mechanization of Production and Harvesting of Cotton

Research on cotton mechanization in cooperation with agronomists, entomologists, and economists has helped cut the labor required to grow the Nation's cotton by an estimated 2 billion man-hours per year, and more than doubled the productivity or efficiency of the cotton farmer. Although mechanization of cotton production is far from complete, estimated at between 25 and 50 percent, significant progress has been made in developing new or improved equipment for (1) subsoiling where compacted soil layers are problems, (2) obtaining the desired stand with only one planting, (3) applying chemicals for weed, insect, and disease control, and for defoliation. Progress is being made in developing more effective adjustment, management, and use of both spindle- and stripper-type harvesters.

New Planting Attachment Gives Better Emergence of Cotton

An attachment for use with lister planters in the subhumid cottongrowing area of the Southwest features a narrow furrow opener and seed press wheel with soft rubber tire, which presses the seeds into firm moist soil before they are

covered. The correct placement and uniform shallow covering afforded by this attachment helps overcome drying out of the seed when covered with too little soil, or failure to emerge when covered too deeply. At least three major machinery manufacturers now have this seed press wheel available for their cotton planters. Approximately 30,000 units have been manufactured and put into use. Wide adoption of this development could result in large savings to cotton farmers by reducing or eliminating costs of replanting.

COTTON GINNING RESEARCH

From the time of the establishment of the USDA Cotton Ginning Research Laboratory at Stoneville, Miss., in 1930, the Department's ginning research program has made important contributions toward the solution of ginning problems and toward the improvement of ginning equipment and of the operation and management of such equipment. During recent years this research has been to a great extent responsible for continuing progress in solving many of the problems which have accompanied (1) the trend toward longer-staple, finer-fibered cottons and (2) the introduction of labor- and cost-reducing mechanical harvesting and rough hand picking practices.

Among the outstanding developments which have resulted from these investigations are (1) seed cotton feed control which controls the rate at which seed cotton is fed into the gin and obtains a uniform flow of cotton through the ginning system, (2) green-boll and rock trap, which removes green bolls and other heavy foreign matter including tramp metal from seed cotton before ginning, (3) stick remover, which removes sticks (pieces of stalk), stems, bur, and other trash from seed cotton, (4) lint cleaners, which remove leaf fragments and small pieces of trash that remain entangled in cotton fiber after ginning.

FASTER GINNING OF EXTRA-LONG-STAPLE COTTON

Improvements in machinery for ginning American-Egyptian type cotton have not kept pace with new varieties, improved cultural practices, and mechanical harvesting. Such cotton is roller ginned for maintaining quality. Saw gins used on upland varieties shorten the staple and produce neps in the long silklike fiber, thereby reducing the market value of the fiber. A recent development at the Southwestern Cotton Ginning Research Laboratory, Mesilla Park, N. Mex., for increasing capacity of roller gins may be the first improvement since the invention of a roller gin improvement by Fones McCarthy in 1840.

This development, which consists of substituting a rotary knife for the customary reciprocating knife, can be adapted on present roller gins by shop modification. The rotary knife of peculiar design not only facilitates faster ginning, but also eliminates many objections to the roller gins, such as vibration and excessive wear.

Preliminary tests of prototype models indicate an increase in capacity of about 100 percent without loss of lint grade. It seems probable that this development will warrant increased use of the roller gin for some of the longer staple upland cottons for premium uses. This roller gin improvement is being tested under commercial operating conditions.

POTATO HARVESTING AND HANDLING EQUIPMENT IMPROVED

Improvements were made in windrowing attachments for a 2-row potato digger which permit savings of about 20 percent in the cost of hand picking, as compared with a digger without windrowing equipment. Use of the windrower-equipped digger is a step toward adoption of full mechanical harvesting with a pickup-type harvester.

Within 2 years after the development at the USDA Potato Research Center in the Red River Valley in Minnesota in 1951 of a potato harvester incorporating a laterally tilted cross conveyor to increase the effectiveness of mechanical separation of potatoes from clods and stones, this improvement had been incorporated in five commercially produced potato harvesters that have attained acceptance by growers in the Red River Valley. Three commercial models incorporating this feature are now being distributed on a nationwide basis.

A seven-eighths-inch-square rotating rod, similar to those used on machines known as rod weeders, has been successfully used instead of the conventional shovel-type blade on potato diggers. The advantages of the square rod are that it is relatively trouble free during operation and greatly reduces the spill out

of potatoes frequently experienced with digger blades. The rod-equipped machine may be used for either direct digging or for picking up potatoes previously dug and windrowed. Results of tests with this bladeless digger have aroused the interest of growers, and some machinery manufacturers are including this development in experimental machines.

NEW GRASSLAND SEED AND FERTILIZER DRILL DEVELOPED

Experiments with pasture establishment studies at Beltsville under adverse conditions gave some striking differences in pasture yields of a grass-legume mixture according to the way seed and fertilizer had been placed. Plots with fertilizer in continuous bands 1 inch below ladino-fescue drilled in rows 8 inches apart yielded 2⅓ times as much as plots with seed and fertilizer broadcast and firmed with a corrugated roller as in common farm practice. Two implement companies are now building grassland drills that incorporate the principles developed in this project. This research is being expanded into the Southeast, Great Plains, and Northwest.

IMPROVED HOSE-TYPE PUMP FOR METERING LIQUID FERTILIZERS

A practical, relatively inexpensive pump for application of liquid fertilizers has been developed through redesign and improvement of a pump developed in principle several years ago by the University of Tennessee in cooperation with the Tennessee Valley Authority. A number of plastic hoses, stretched over a rotating rod-reel, meter, low-pressure types of liquid fertilizer without the fertilizer coming in contact with moving metal parts, thus eliminating corrosion of operating parts. Also, troublesome valves and orifices are eliminated. When the pump is operated by a ground-driven wheel, the amount of fertilizer applied per acre is not affected by variations in ground speed. This pump is now available commercially from six companies.

"RIDGE FARMING" FOR SOIL AND WATER CONSERVATION

Agricultural engineering research has developed the necessary adaptations of mechanical equipment to make practical a system of planting and cultivating corn on substantial precisely formed contoured ridges which has promising possibilities as a soil and water conservation practice for corn production in humid areas. This system has been developed in cooperation with the ARS Soil and Water Conservation Research Branch and the Iowa Agricultural Experiment Station. It has the erosion control and rainfall conserving features of contour listing but produces yields comparable with flat-planted corn. On level land, these ridges provide up to 5 inches of above-ground water-storage capacity, and on slopes as much as 1.5 to 2 inches of water storage.

PORTABLE ELECTRIC FENCE POST DESIGNED

A portable electric fence post for use in rotation grazing was developed. The simple design is suitable for farm-shop construction. The post is made from ⅜-inch steel rod and plastic (polyethylene) farm water pipe. The plastic pipe slips over a specially shaped portion of the post and serves as the insulator for the charged wire. The fence wire slips into the insulated section without additional fasteners. The assembly is supported by a tripod formed from steel rod; hence, the posts need not be driven into the ground and may be moved at frequent intervals as required.

IMPROVEMENTS IN CLEANING GRASS AND LEGUME SEEDS

While machines embodying new principles of separation are needed and studies are underway for developing them, engineering research has discovered that much can be accomplished by simple inexpensive modifications and adjustments of conventional machines. For example, research conducted in cooperation with the Oregon Agricultural Experiment Station showed that the efficiency of one dodder mill in removing dock from red cloverseed could be greatly increased merely by increasing the speed of the rolls from approximately 60 to 200 revolutions per minute. In one instance a lot of off-grade red cloverseed containing a high percentage of dock was cleaned sufficiently to meet requirements for No. 1 grade by this change in speed of rolls.

MECHANICAL DRYING PERMITS FIELD SHELLING OF CORN

Successful development of farm drying equipment with capacity to handle 1,000 bushels or more per day of shelled corn has made possible commercial marketing of corn picker-shellers and corn combines. Both machines are now being sold to farmers in considerable numbers. Principal advantages of harvesting only the shelled corn are:

1. Lower storage costs, because shell corn occupies only half the storage space needed for ear corn.
2. Shelled corn flows by gravity, making handling and feeding easier.
3. With corn acreages of about 80 acres or more, the savings in storage costs are larger than the annual costs of the additional equipment needed.
4. Mechanical drying of the shelled corn permits early harvesting with reduction in harvesting losses due to down stalks, dropped ears, shattered kernels, and the like.

A conference on field shelling and drying of corn, sponsored by Agricultural Research Service in May 1956 brought together representatives of farm machinery, farm drier, and other farm-equipment manufacturers, State experiment station and extension workers, Federal research and extension workers, the farm press, and others. The potential value of these new developments was generally recognized. It was evident that much of the success of these improved practices rests on research extending over 10 years by agricultural engineers in basic principles of grain drying. The proceedings of the conference constitute a valuable reference and textbook on field shelling and drying of corn.

NEW CURING METHOD FOR VIRGINIA-TYPE PEANUTS PERMITS REDUCTION IN HARVESTING COSTS

Research in cooperation with the Virginia Agricultural Experiment Station at its Tidewater Field Station, Holland, Va., has resulted in development of a method of mechanicaly harvesting ,curing, and drying Virginia-type edible peanuts without field curing on stack poles. This results in a large saving of labor and of the costs of lumber, nails, etc., used in the stack poles.

The quality of peanuts cured by the new method is equal to that obtained by stack poling. Best quality results when the peanuts are ripened in the windrow for about 6 days, while the moisture content is being reduced to about 25 percent. Windrow time is varied according to the weather. The peanuts are then picked and dried mechanically at about 90° F. Drying too slowly results in a rancid flavor, while drying at too high temperature causes slipping of the peanut skins and an unpleasant taste.

Trial of the new method by a few farmers near Holland has confirmed its value even under the very adverse weather conditions of the 1956 season.

ORCHARD HANDLING OF RED CHERRIES IN WATER

A system of collecting and transporting red cherries in water from orchard to processing plant, which was developed in cooperation with the Michigan Agricultural Experiment Station, has demonstrated numerous advantages, including the following:

1. Helps maintain on-the-tree quality after picking.
2. Provides a means of improving grade by orchard sorting.
3. Eliminates lugs and lug storage, maintenance, distribution, and accounting problems.
4. Reduces costs of handling.
5. Simplifies management of orchard picking equipment and picker crews.

It is estimated that 45 to 50 million pounds of red cherries were handled by this method during the 1956 season.

LABOR-SAVING METHODS OF PICKING APPLES

A method of using three specialized teams to pick apples has been developed. This method increases the average rate at which apples can be picked because each crew does a specialized job with equipment that is suited to its work. A ground crew picks all apples that can be reached from the ground without ladders. This crew is followed by a midsection crew using light stepladders or other equipment which enables them to pick the fruit that remains in the tree below a height of about 14 feet. A third crew follows using ladders of sufficient length to enable them to reach all of the fruit remaining in the tops of the trees. This specializa-

tion by crews makes possible an increase in average picking rate of about 1 bushel per hour per worker, results in less bruising of apples, and requires less picking equipment. This system also permits the more effective use of inexperienced or less robust workers by placing them in the ground crew.

ORCHARD HANDLING OF APPLES IN BULK BOXES

A practice of handling apples in bulk boxes, having a capacity of 16 to 20 bushels, with tractor forklift equipment has been satisfactorily developed for handling windfall, cull, and processing apples. Progress is being made in adapting this practice for use with fresh market fruit. The method reduces labor cost in the orchard about 2.7 cents per bushel. Further, the first cost of a bulk box is less than the first cost of a pallet plus the number of field crates required for the forklift handling of the same amount of fruit. The labor and cost of shipping and handling at the processing plant is reduced. Total overall savings may be as much as 13.5 cents per bushel.

SHORTHORN CALVES RETARDED BY HOT WEATHER

The importance of protecting European-source breeds of calves from summer heat was shown in studies under carefully controlled conditions in cooperative research at the Missouri Agricultural Experiment Station. Two lots of Shorthorn calves were chosen so that each group was as much like the other as possible; and similarly with two lots of Brahman calves. One Shorthorn group and one Brahman group was raised for 1 year under controlled conditions providing a constant temperature of 50° F.; the other groups under constant temperature of 85° F. The higher temperature severely retarded growth of Shorthorns as compared to Shorthorns at the lower temperature or the heat-resistant Brahmans at both temperatures.

	Average weight at beginning of test (pounds)	Average weight at end of test (pounds)	
		50° F.	80° F.
Shorthorns	127	657	467
Brahmans	137	630	655

COOLING BEEF CATTLE WITH FANS INCREASES GAINS, SAVES FEED

During a 70-day feeding trial in 1956 in cooperation with the University of California, Imperial Valley Station, Hereford steers fanned by the breeze from a 42-inch fan gained an average of 0.53 pounds more per steer per day than steers in a nearby similar pen without a fan. The fanned steers consumed 183 less pounds of feed for each 100 pounds of gain. In 1955, a hotter summer, increase in gain due to the fan was 1.03 pounds per head per day. The fan lowered the feed required per 100 pounds of gain by more than 400 pounds.

ELECTRIC BROODER CURTAINS CUT COSTS

Recently concluded experiments show that the cost of brooding chicks in an infrared-lamp brooder can be cut by about half if the brooder is fitted with curtains. This resulted in a saving of electricity amounting to about 2 cents a chick. Over a normal 11-week brooding period, there were no significant differences in gains and feed efficiency between chicks reared in brooders with or without curtains, but the brooders without curtains required almost 93 percent more electrical energy than curtained brooders.

Similar results were obtained in brooders fitted with curtains made of white vinyl plastic, clear vinyl plastic, and 32-gage aluminum sheeting. The clear plastic curtains gave the added advantage of visibility.

Use of curtains on chick brooders is not new. In the past, however, it has been customary to use makeshift materials such as burlap sacking or discarded fabrics. Most of these were inefficient in reducing operating costs significantly. In addition, many of the makeshift curtain materials created a fire hazard.

Brooders heated by infrared lamps are becoming widely popular among producers owning flocks of 500 birds or less, and the low-cost-of-operation possibilities are beginning to interest some of the larger broiler producers.

ELECTRIC LIGHT TRAPS FOR INSECT SURVEYS

Electric light traps developed by USDA engineering research are proving very effective for surveys of insect presence or abundance. These traps are particular types of fluorescent lamps which radiate energy in the near-ultraviolet part of the spectrum. These traps are of value not only as tools for scientific research but also as guides for more effectively planning and managing insect control programs. More than 100 such traps were furnished to entomologists in 28 States during 1955 and 1956.

NEW TYPE BROODING SYSTEM DEVELOPED

A new brooding system was developed in cooperation with the Connecticut (Storrs) Station in response to requests from local poultry growers for an automatic central-heating system providing radiant heat suitable for all weather conditions. The system includes an oil burner that heats air to an initial temperature of 400° F., and a motor-driven blower to circulate the heated air through a closed metal duct system installed along the rear wall of the brooder house. The black metal surface of the duct radiates a large amount of heat into the house. The pattern of radiated heat is such as to establish a large comfort zone (brooding area) the full length of the brooder house and allows more ventilation for the same heat input with moderate air temperature. The unit is already in commercial production.

LABOR-SAVING EQUIPMENT DEVELOPED FOR BEEKEEPERS

A new method has been developed for uncapping honeycombs by an electrically heated pin-roller. It promises to reduce the hand labor required for uncapping, which is one of the most laborious operations in producing honey. Two devices for tipping beehives, which reduce considerably the hand labor required for handling hives, have also been developed. One, completely automatic, is designed for use with a truck having a hydraulic tailgate. It is excellent for the beekeeper with a large number of colonies that must be moved often. The second is a lower-cost, hand operated tipper designed for smaller operations.

Dr. JOHNSON. Cotton ginning has been a very essential part of cotton production. Without adequate gin cleaning equipment and gin processing, it would not have been possible to use mechanical harvesting.

FARM BUILDING PLANS

Mr. MARSHALL. I was interested in the new farm building plans developed in the South. Have you done work for other parts of the United States?

Dr. JOHNSON. That planning service is available for all regions. The special work that has been done recently has been done for the Southern States, but our farm buildings research people are working with several regional committees, which include agricultural engineers in the land-grant colleges. Also, they cooperate with those industries which are developing building plans. As plans are developed, they are made available to county agents and other agricultural workers.

Mr. MARSHALL. When this committee made an inspection trip out at Beltsville 2 years ago we saw some housing plans that were being effected there. There was some comment at that time on the feasibility of putting basements under those houses. Was any estimate made of that cost?

Dr. MCKIBBEN. I can say that no basement has been added. I will be glad to check into the matter, and if you wish to have an answer on the record we will supply it.

Dr. JOHNSON. Suppose you develop a statement for the record on the possible cost of adding a basement.

Is that what you would like to have, Mr. Marshall?

Mr. MARSHALL. That is right.

(The information requested is as follows:)

In response to the suggestion of your committee, consideration was given to providing a basement for the basic unit of the last of this group of small expansible-type experimental farmhouses. However, funds to cover the added cost of a basement were not available. Also there was need for arrangements to study the temperature-moisture relationships of on-the-ground floor slabs. Further, the level site, while not precluding a basement, was not particularly favorable for basement construction.

Under these circumstances it was decided that the research program would be best served by omitting the basement and using an on-the-ground concrete floor with instrumentation for studying temperature-moisture relations installed at the time of construction. This floor was installed in 12 sections and is being used to study the effects of 6 types of subfloor fill and vapor barrier construction on moisture and temperature distribution.

When plans of this house were prepared for the use of the Cooperative Plan Exchange Service, an alternate plan was drawn showing how a basement could be installed under the basic unit. We estimate that it would cost an additional $800 to $1,200 to install a basement.

EQUIPMENT FOR APPLYING PESTICIDES

Mr. MARSHALL. The Department has been doing considerable research work on biological control of pests. You are doing some work on the mechanical equipment?

Dr. JOHNSON. That is right.

Mr. MARSHALL. How do you coordinate that?

Dr. JOHNSON. The agricultural engineers work very closely with the entomologists in all of this work and with the industry that supplies applicator equipment.

I would like to turn now to the increase items, and the first one is an expansion of research on equipment for application of chemicals.

Mr. MARSHALL. Will you comment on that particular phase of it?

Dr. JOHNSON. All right.

We are requesting an increase of $146,000 in order to expand the research on improvement of equipment and methods for the application of chemicals to control not only insects but plant diseases and weeds in growing crops. The agricultural engineers will work as a team with the entomologists on insect work and with the plant pathologists on diseases and the weed research people in the crops field.

Expressions have come to us over several years, now, of the need for better application equipment for the chemicals. The entomologists are working on the biological features.

We need, especially, better control of spread of sprays and protection against drift, as you probably know. The annual cost of applying chemicals to insects, plant diseases, and weeds is about $350 million. If we could get more accurate application and a resulting saving in materials, it could result in 5 to 10 percent reduction of that cost, which could amount to 15 to 35 million dollars annually.

As I said a moment ago, the research will involve cooperative work with entomologists and with the equipment industry.

We would work especially with control of insect pests and plant diseases on vegetable crops, on sugarcane, beets, potatoes, tree fruits, tobacco, and grain. Perhaps not on all of those the first year, but those are the requests that have come to us where the work seems to be most needed.

For weed control we would work on cotton, peanuts, rice, sugar beets, and grain.

DEVELOPING EQUIPMENT FOR HARVESTING AND HANDLING NEW CROPS

The next item is on harvesting and handling of new crops for which we are requesting an increase of $104,000. In the discussion yesterday it was mentioned that one of the ways of reducing the surplus problem is to develop new or replacement crops for part of the acreage that isn't needed for surplus crops at the present time. We need especially to develop crops that can get into additional markets. Dr. Shaw mentioned yesterday the ones that seem to have promise, and on which requests have been made for engineering research to develop better harvesting equipment, especially, and for some other machines as well: (1) castor beans, (2) sesame, and (3) bamboo. Those are the three crops that would receive first attention.

If these crops are to be expanded, engineering research will be needed to mechanize the harvesting and handling. As you know, some work has been done on the harvesting of castor beans but we need two types of work. There is a need to develop better machines for the tall varieties on the Pacific coast, and for the dwarf varieties in the Southern Plains and for other southern areas.

The work that has been done so far has been on a combined harvester-huller. There is also a possibility of separating the harvesting and the hulling to get a cheaper machine for smaller farms, which is something that we would like to work on.

On sesame, the problem is one of getting efficiency in threshing and prevention of shattering.

Again, of course, this work has to be done very closely in cooperation with the crops people because they are working on this shattering problem. In the cooperative work on castor beans, they are trying to breed varieties suitable for the South and for the Pacific coast areas and trying to get varieties and adaptations which will facilitate mechanical harvesting.

It is very necessary to develop mechanization of the harvesting and handling of bamboo, if that crop is going to find a place in our agriculture which, as was said yesterday, is largely as a source of pulping materials.

That will finish the agricultural engineering and I will turn to "Production economics" unless there are questions.

TOBACCO STORAGE PROBLEMS

Mr. NATCHER. Dr. Johnson, as you well know, there has been a considerable change in the process used in manufacturing cigarettes during the past 3 or 4 years. I am positive you know that certain types of dark tobacco are now used in cigarettes.

In your studies as to farm buildings, in the drying and processing of different commodities, is your division working with any of the land-grant colleges concerning processing and drying of tobacco? Do you have anything underway along that line, Dr. Johnson?

Dr. JOHNSON. We are working in North Carolina and Tennessee.

Dr. MCKIBBEN. Not only on the building, but the environment within the building—the humidity, ventilation, temperature, and so

forth, to help curing. Another phase of the cooperative work at North Carolina, is a project to explore the possibility of curing tobacco in chopped form in bulk, which if it could be successfully accomplished would greatly reduce the space and labor requirements. It would be particularly important from the standpoint that it would facilitate mechanical harvesting because the leaves no longer would have to be handled individually. That is a project which, while somewhat preliminary, does show considerable promise. I have some pictures here and we will be glad to show those to you.

Mr. NATCHER. That is fine and means a lot to the States producing tobacco. As you well know, this is one commodity that certainly pays its way.

That is all, Mr. Chairman.

DEVELOPMENT OF EQUIPMENT FOR SMALL FARMS

Mr. MARSHALL. Dr. Johnson, coming from a territory that has a number of small farms, it has always appeared to me that a great deal more could be done on these small farms if they had machinery that might have interchangeable parts, like standardization of that wheel that might be shifted from one vehicle to another that would cut down on the cost to the small farm.

Have you been doing any work on trying to adapt machinery for the operation of the smaller type farms?

Dr. JOHNSON. Yes. The liquid fertilizer applicator that I mentioned is a case in point. That was developed especially for the smaller farms. It is difficult to develop machines that will serve more than one operation. A forage harvester, of course, is one example where they do that. It can be adapted with interchangeable parts for harvesting both grasses and corn silage. There are some other machines. Perhaps, Dr. McKibben, you have other illustrations.

I think the manufacturers have done a pretty good job over a period of years in developing interchangeable parts. They don't have interchangeable parts as between manufacturers, but they do have interchangeable parts for a given line of equipment.

Mr. MARSHALL. In previous years I have asked for certain information on farm machinery and fertilizer use. Would you bring that up to date and insert it in the record? Also, would you bring up to date the charts you prepared last year and insert them in the record?

Dr. JOHNSON. Yes, sir.

(The tables and charts requested follow:)

Total domestic production of farm machines and equipment, although less each year since the very high production of 1951, has been at a high rate since the war, as indicated below

[In thousands of dollars]

Year	Current production	Production in terms of 1947–49 prices
1940	$496,986	$711,000
1945	700,177	950,000
1947	1,294,686	1,433,761
1948	1,733,746	1,709,809
1949	1,813,008	1,674,061
1950	1,792,427	1,619,175
1951	2,204,491	1,835,546
1952	1,933,335	1,589,914
1953 (estimate)	1,817,786	1,486,334
1954 (estimate)	1,558,206	1,267,868
1955 (estimate)	1,840,000	1,497,200
1956 (preliminary estimated)	1,620,000	1,271,600

Domestic production in 1955, after allowing for changes in prices of farm machinery and equipment, is estimated at about 18 percent more than in 1954, but 18 percent less than in the very high year of 1951. Production in 1956 is estimated to have been 15 percent less than in 1955 at 1947–49 prices. Following developments in Korea, demand for farm machinery increased substantially and resulted in record high production in 1951.

Average monthly total employment in the farm machinery and tractor industry increased from 88,200 workers in 1940 to 197,000 in the high production year of 1951.. In 1955 average employment was 153,000 and the average for the first 11 months of 1956 was 145,300.

Source: Production Economics Research Branch, ARS.

Use of fertilizer and lime, United States

Year	Fertilizer nutrients N-P_2O_5-K_2O [1]		Liming materials, ground limestone equivalent [2]		Year	Fertilizer nutrients N-P_2O_5-K_2O [1]		Liming materials, ground limestone equivalent [2]	
	1,000 tons	Index 1947–49=100	1,000 tons	Index 1947–49=100		1,000 tons	Index 1947–49=100	1,000 tons	Index 1947–49=100
1947–49	3,663	100	28,002	100	1949	3,860	106	24,434	87
1930	1,524	42	3,588	13	1950	4,413	120	29,842	107
1935	1,216	33	3,505	13	1951	4,769	130	27,583	99
1940	1,766	48	14,406	51	1952	5,312	145	27,252	97
1945	2,832	77	23,030	82	1953	5,600	153	20,600	74
1946	3,286	90	28,932	103	1954	5,986	163	18,975	68
1947	3,490	95	29,286	105	1955	6,147	168	20,659	74
1948	3,640	99	22,285	80	1956 [3]	6,081	166	(4)	

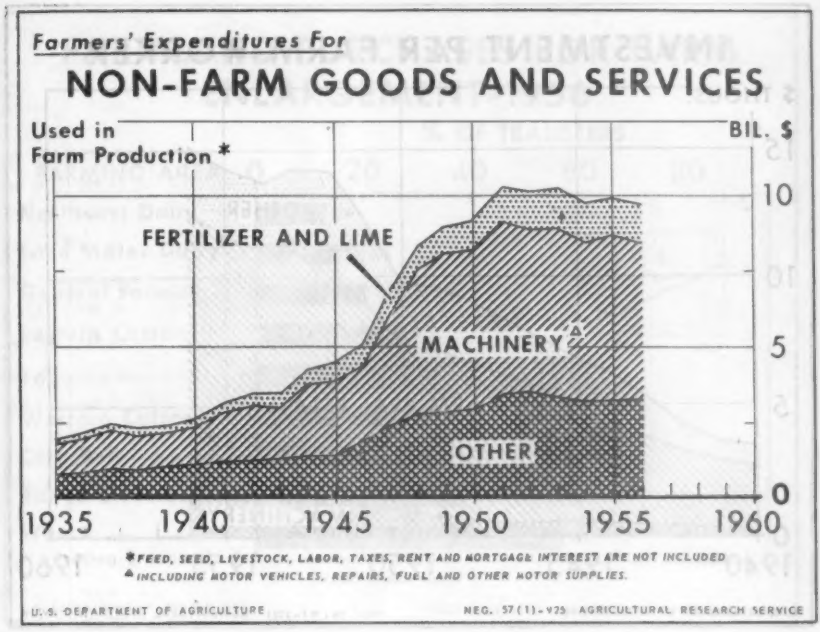
[1] Data from Soil and Water Conservation Research Branch, ARS. Includes Territories, which account for about 2 percent of total. Data are for calendar years except 1956 estimate which is for year ending June 30.
[2] National Agricultural Limestone Institute, Inc. Data are for continental United States.
[3] Preliminary.
[4] Not available. Estimated use in 1956 about 1 million tons above 1955.

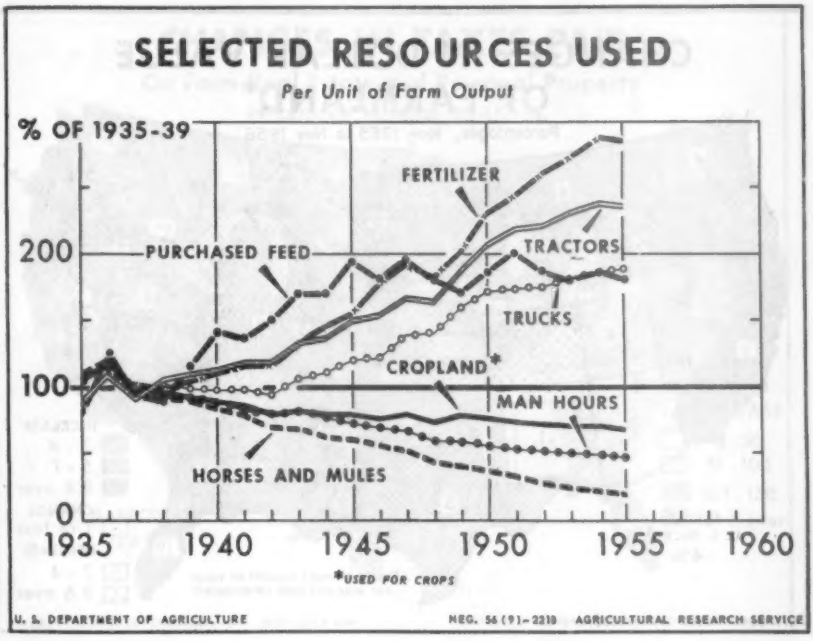
Source: Agricultural Research Service, Production Economics Research Branch.

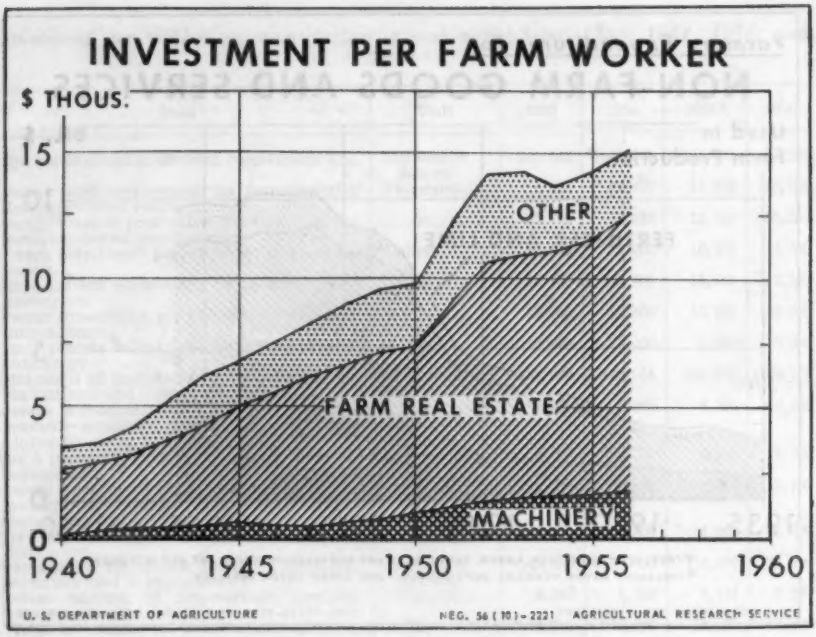
Investment per worker in manufacturing and agriculture, 1953, 1954, 1955, and 1956 [1]

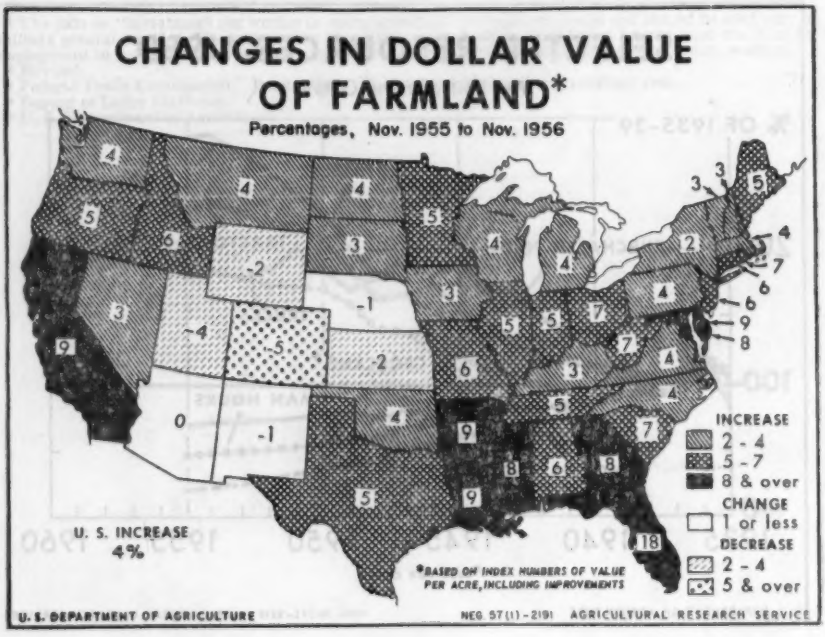
Item	Unit	1953	1954	1955 [2]	1956
Total assets all manufacturing corporations [3]	Millions of dollars.	165,965	171,241	175,065	190,086
Average total employment in manufacturing during previous year.[4]	Thousand	16,334	17,238	15,995	16,557
Average number production workers in manufacturing during previous year.[4]	do	13,144	13,833	12,589	13,053
Average investment per employee in manufacturing.	Dollars	10,200	9,900	10,900	11,500
Plus 5 percent adjustment for unincorporated enterprises.	do	10,700	10,400	11,500	12,100
Average investment per production worker in manufacturing.	do	12,600	12,400	13,900	14,600
Plus 5 percent adjustment for unincorporated enterprises.	do	13,300	13,000	14,600	15,300
Total assets all manufacturing corporations (excluding cash and Government securities).	Millions of dollars.	138,669	142,954	147,057	159,182
Average investment (excluding cash and Government securities) per manufacturing employee.	Dollars	8,500	8,300	9,200	9,600
Plus 5 percent adjustment for unincorporated enterprises.	do	8,900	8,700	9,700	10,100
Average investment (excluding cash and Government securities) per production worker in manufacturing.	do	10,600	10,300	11,700	12,200
Plus 5 percent adjustment for unincorporated enterprises.	do	11,100	10,800	12,300	12,800
Total assets of agriculture, January 1 (excluding assets not used in production).[5]	Millions of dollars.	[2] 122,400	[2] 117,900	121,600	124,900
Average number of farmworkers (previous year).[5]	Thousand	8,669	8,580	8,451	8,237
Average investment per farmworker	Dollars	[2] 14,100	[2] 13,700	14,400	15,200

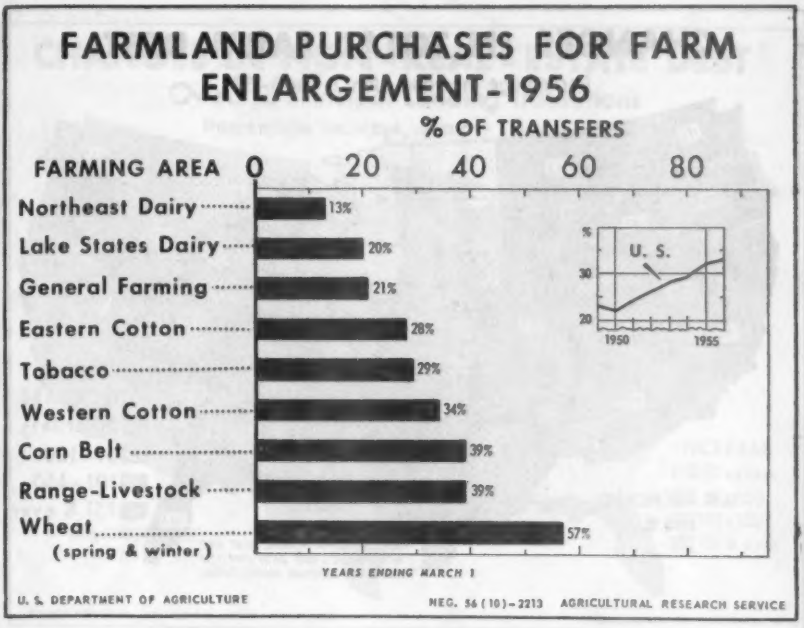
[1] The data on "investment per worker in manufacturing" are rough estimates and should be used only to indicate general trends. The investment in unincorporated enterprises is not known, and the data on employment in manufacturing exclude proprietors, self-employed workers, and unpaid family workers.
[2] Revised.
[3] Federal Trade Commission. Book value. Data are for 4th quarter of previous year.
[4] Bureau of Labor Statistics.
[5] U. S. Department of Agriculture.

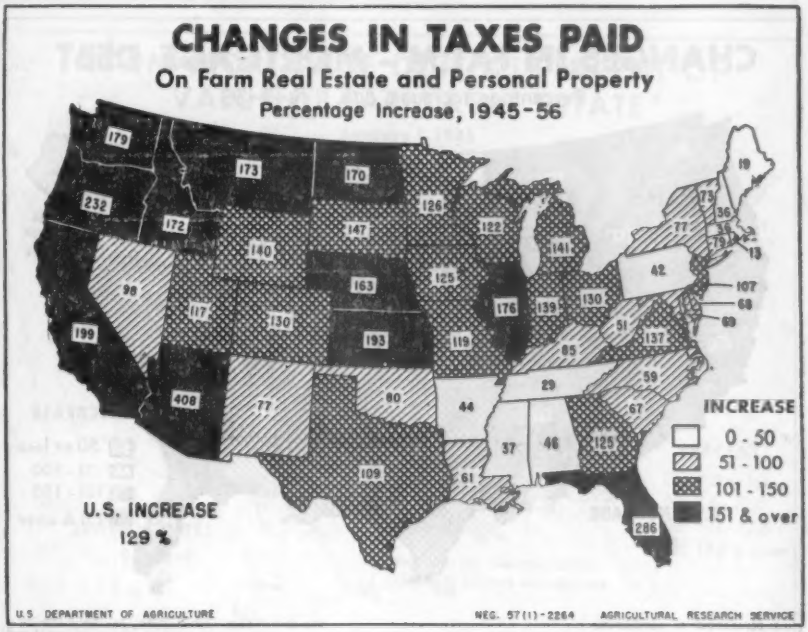

Farmers' Expenditures For
NON-FARM GOODS AND SERVICES
Used in Farm Production *
BIL. $
10
5
0
FERTILIZER AND LIME
MACHINERY ▲
OTHER
1935
1940
1945
1950
1955
1960
*FEED, SEED, LIVESTOCK, LABOR, TAXES, RENT AND MORTGAGE INTEREST ARE NOT INCLUDED
▲INCLUDING MOTOR VEHICLES, REPAIRS, FUEL AND OTHER MOTOR SUPPLIES.
U. S. DEPARTMENT OF AGRICULTURE
NEG. 57(1)-925 AGRICULTURAL RESEARCH SERVICE


SELECTED RESOURCES USED
Per Unit of Farm Output
% OF 1935-39
200
100
0
FERTILIZER
PURCHASED FEED
TRACTORS
TRUCKS
CROPLAND*
MAN HOURS
HORSES AND MULES
1935
1940
1945
1950
1955
1960
*USED FOR CROPS
U. S. DEPARTMENT OF AGRICULTURE
NEG. 56(9)-2210 AGRICULTURAL RESEARCH SERVICE

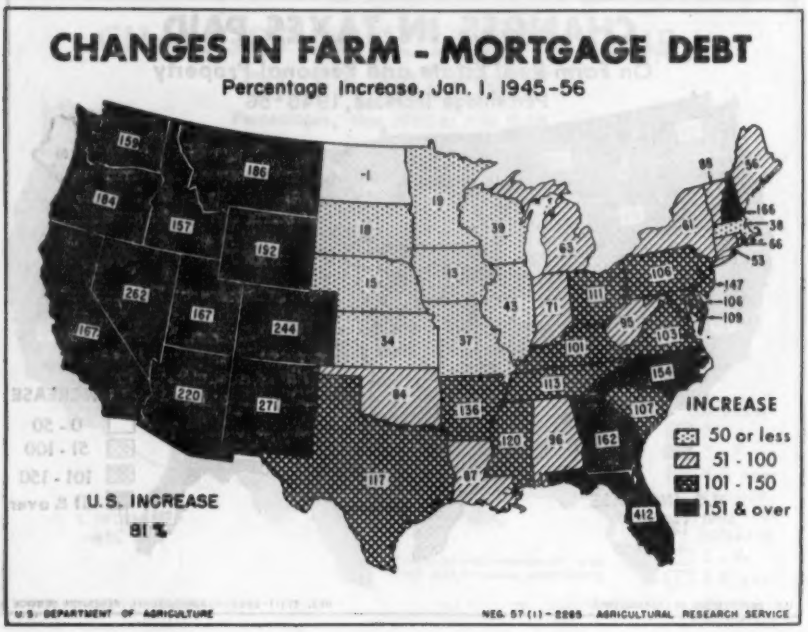

INVESTMENT PER FARM WORKER
$ THOUS.
15
10
5
0
1940
1945
1950
1955
1960
OTHER
FARM REAL ESTATE
MACHINERY
U. S. DEPARTMENT OF AGRICULTURE
NEG. 56 (10) - 2221 AGRICULTURAL RESEARCH SERVICE

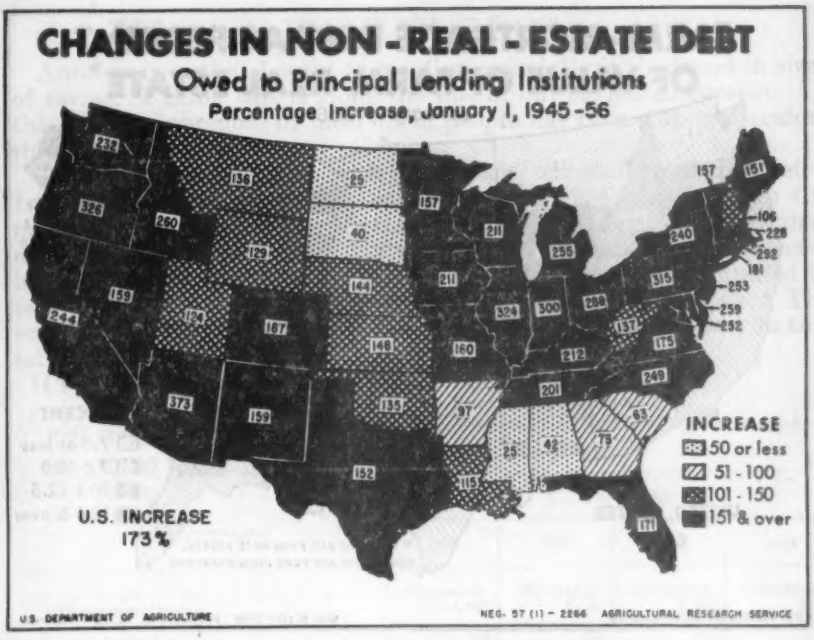

CHANGES IN DOLLAR VALUE OF FARMLAND*
Percentages, Nov. 1955 to Nov. 1956
U. S. INCREASE 4%
INCREASE
2 - 4
5 - 7
8 & over
CHANGE
1 or less
DECREASE
2 - 4
5 & over
*BASED ON INDEX NUMBERS OF VALUE PER ACRE, INCLUDING IMPROVEMENTS
U. S. DEPARTMENT OF AGRICULTURE
NEG. 57 (1) - 2191 AGRICULTURAL RESEARCH SERVICE

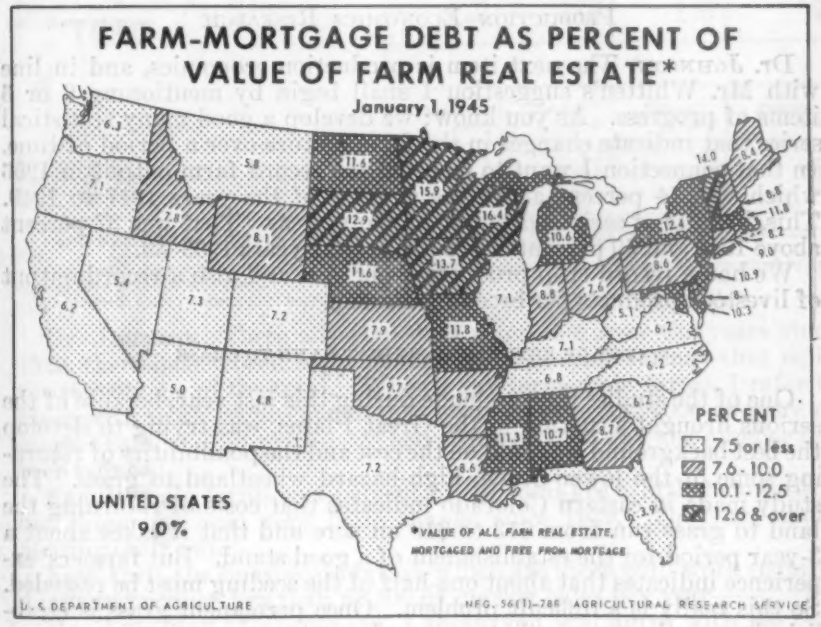

FARMLAND PURCHASES FOR FARM ENLARGEMENT-1956
% OF TRANSFERS
FARMING AREA
0
20
40
60
80
Northeast Dairy
13%
Lake States Dairy
20%
General Farming
21%
Eastern Cotton
28%
Tobacco
29%
Western Cotton
34%
Corn Belt
39%
Range-Livestock
39%
Wheat
(spring & winter)
57%
U. S.
%
30
20
1950
1955
YEARS ENDING MARCH 1
U. S. DEPARTMENT OF AGRICULTURE
NEG. 56(10)-2213 AGRICULTURAL RESEARCH SERVICE

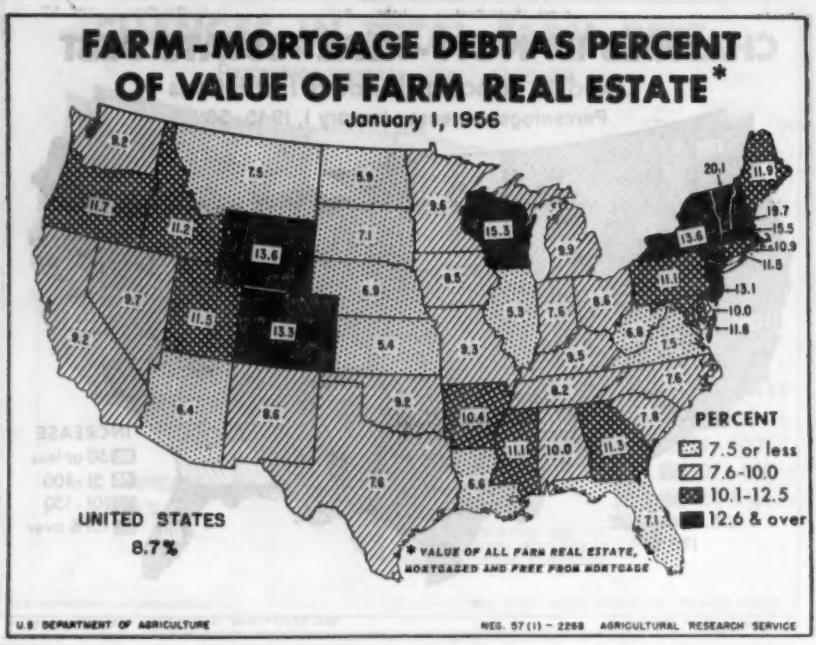

CHANGES IN TAXES PAID
On Farm Real Estate and Personal Property
Percentage Increase, 1945-56
179
173
170
232
172
126
147
122
141
140
163
125
98
117
130
176
139
130
199
193
119
85
51
137
408
77
80
44
29
59
67
37
46
125
109
61
286
42
19
73
36
77
13
107
68
89
INCREASE
0 - 50
51 - 100
101 - 150
151 & over
U.S. INCREASE
129 %
U.S. DEPARTMENT OF AGRICULTURE
NEG. 57(1)-2264 AGRICULTURAL RESEARCH SERVICE

CHANGES IN TOTAL FARM DEBT
Percentage Increase, Jan. 1, 1945-56
179
163
0
46
200
183
27
61
92
97
106
89
154
55
102
69
164
47
142
161
222
140
52
99
106
141
105
135
132
217
184
71
68
120
120
277
224
100
124
135
95
170
INCREASE
50 or less
51 - 100
101 - 150
151 & over
88
79
133
128
95
323
U.S. INCREASE
104 %
TOTAL FARM-MORTGAGE DEBT AND NON-REAL ESTATE DEBT OWED TO PRINCIPAL LENDING INSTITUTIONS.
U.S. DEPARTMENT OF AGRICULTURE
NEG. 57 (1) - 2267 AGRICULTURAL RESEARCH SERVICE


CHANGES IN FARM - MORTGAGE DEBT
Percentage Increase, Jan. 1, 1945-56
159
186
-1
98
96
184
19
157
192
10
39
63
81
166
38
66
53
15
13
106
147
262
167
244
43
71
111
106
109
167
34
37
99
103
101
184
220
271
94
113
136
107
INCREASE
120
96
162
50 or less
51 - 100
101 - 150
151 & over
117
87
412
U.S. INCREASE
81 %
U.S. DEPARTMENT OF AGRICULTURE
NEG. 57 (1) - 2265 AGRICULTURAL RESEARCH SERVICE


CHANGES IN NON-REAL-ESTATE DEBT
Owed to Principal Lending Institutions
Percentage Increase, January 1, 1945-56
INCREASE
50 or less
51 - 100
101 - 150
151 & over
U.S. INCREASE
173%
U.S. DEPARTMENT OF AGRICULTURE
NEG. 57 (1) - 2266 AGRICULTURAL RESEARCH SERVICE


FARM-MORTGAGE DEBT AS PERCENT OF
VALUE OF FARM REAL ESTATE*
January 1, 1945
PERCENT
7.5 or less
7.6 - 10.0
10.1 - 12.5
12.6 & over
UNITED STATES
9.0%
*VALUE OF ALL FARM REAL ESTATE, MORTGAGED AND FREE FROM MORTGAGE
U. S. DEPARTMENT OF AGRICULTURE
NEG. 56(1)-786 AGRICULTURAL RESEARCH SERVICE


FARM-MORTGAGE DEBT AS PERCENT OF VALUE OF FARM REAL ESTATE*
January 1, 1956
UNITED STATES
8.7%
PERCENT
7.5 or less
7.6-10.0
10.1-12.5
12.6 & over
* VALUE OF ALL FARM REAL ESTATE, MORTGAGED AND FREE FROM MORTGAGE
U.S. DEPARTMENT OF AGRICULTURE
NEG. 57 (1) - 2268 AGRICULTURAL RESEARCH SERVICE

Production Economics Research

Dr. Johnson. The next item is production economics, and in line with Mr. Whitten's suggestion I shall begin by mentioning 2 or 3 items of progress. As you know; we develop a good many statistical series that indicate changes in the farm picture over a period of time. In that connection I want to mention the record farm output in 1956 which was 14 percent above the average of the years 1947 to 1949. This, in spite of serious drought in many areas. That was 37 percent above 1940 and 50 percent above the prewar years 1935–39.

We had a record crop production per acre and also a record output of livestock products per breeding animal.

COST OF RETURNING WHEAT LAND TO GRASS

One of the studies that we made during this last year, because of the serious drought situation in the Great Plains, was trying to develop the best background we could on the cost and the possibilities of returning some of the lower grade, high-hazard wheatland to grass. The study made in eastern Colorado indicates that costs of returning the land to grass run from $13 to $19 an acre and that it takes about a 3-year period for the establishment of a good stand. But farmers' experience indicates that about one-half of the seeding must be reseeded. So this really is a difficult problem. Once permanent grass is established, with the grasses that we now have, the gross returns per acre are about half of the returns from grain farming, that is, using average yields of both grass and grains. This indicates, I would say very definitely, the need for breeding, if we can some higher yielding forages for the Great Plain States.

TREND IN SIZE OF FARMS

Another item that I want to mention especially is the trend in sizes of farms. I think this is along the line of our earlier discussion. In this country, the goal of most farm people has been owner-operatorship of family farms.

Working in cooperation with the Census, our staff tried to develop from census data for 1929, 1939, 1949, and 1954, the trend in the major size groups, and doing that on the basis of the work requirements. That is, realizing that with the new technology there have been very considerable labor savings the data have been computed in terms of what a given number of workers could do, year by year. The census data on number of farms have been adjusted in that way in this table.

(The table referred to is as follows:)

Number of farms in major size groups at constant levels of farm output per man-hour of labor, United States, 1929–54

Scale of operations	Number of farms			
	1929	1939	1949	1954
	Thousands	*Thousands*	*Thousands*	*Thousands*
Commercial farms	4,645	4,155	3,465	3,100
Large-scale farms [1]	205	195	155	134
Family-scale farms [2]	3,090	2,650	2,135	1,968
Small-scale farms [3]	1,350	1,310	1,175	998
	Percentage of farms			
	Percent	*Percent*	*Percent*	*Percent*
Commercial farms	100.0	100.0	100.0	100.0
Large-scale farms	4.4	4.7	4.5	4.3
Family-scale farms	66.6	63.8	61.6	63.5
Small-scale farms	29.0	31.5	33.9	32.2

[1] Farms with work requirements equivalent to that required to produce $25,000 or more market sales in 1954.
[2] Farms with work requirements below that required to produce $25,000 and above that required to produce $2,500 market sales in 1954.
[3] Farms with work requirements below that required to produce $2,500 market sales in 1954.

Dr. JOHNSON. These adjusted data show that over the years since 1929, there hasn't been much change in large-scale farms—that is, in the percentage of the total. When I say large-scale farms, I refer to those with work requirements that would produce $25,000 or more of market sales at 1954 prices. When adjusted that way the number has been reduced.

Family-scale farms as a percent of the total are a little below 1929, but there has been very little change since 1939. They are about holding their own.

Now, then, the small-scale farms, which are those with work requirements to produce less than $2,500 of market sales per year——

Mr. ANDERSEN. Dr. Johnson, I think you will agree with me that there is no substitute for what we term the family-farm type of agriculture.

Dr. JOHNSON. That is right.

Mr. ANDERSEN. That is really what makes the United States of America strong; is it not?

Dr. JOHNSON. That is right.

Mr. ANDERSEN. As Mr. Whitten so aptly stated in his report concerning his visit to Russia last fall, that is what he and the members of the staff with him found to be the chief weakness of the Russian system of agriculture. They went all out the other way. I don't think we can emphasize too strongly, Mr. Chairman, the value of the family-type farm, and that is why personally—if I may interject here, Mr. Chairman—I introduced yesterday a price support bill on corn to protect up to 4,000 bushels production at 90 percent of parity for each and every farmer in America. That, to me, will take care of the family-size farm. I think this subcommittee must always keep in mind that one basic factor. I repeat again that the family-size farm is the backbone of America in agriculture.

Mr. MARSHALL. One of our men from the university, a man for whom I have a great deal of respect, Dr. Jesness, indicated that the family-type farm was increasing. That it was, though, becoming a larger unit than it used to be. Would you agree with his analysis of that, from what information you have?

Dr. JOHNSON. The figures I have before me don't indicate an increase in the number of family farms. As you know, the census returns have indicated a very considerable decrease in the total number of census farms.

Now, one must understand that the census counts as farms all of the small units that you and I would call homes in the country. They are counted as farms, if they are over 3 acres in size and produce over $150 worth of farm products.

If you take the family-scale farms shown in the table as farms which at 1954 price levels produced over $2,500 worth of products and up to $25,000, there has been a decrease in the number of those farms. There has also been a decrease in the farms larger than that, and a decrease in the smaller farms as well. But as a percentage of the total number, the family-scale farms have held their own. That is, they are 63.5 percent of the total in 1954 and 61.6 percent of the total in 1949—which may have been what was referred to. In 1939, they were 63.8 percent of the total. I would say there has been very little change in percentage of the total. Dr. Jesness is certainly quite correct that the family farms have been getting bigger in acres, bigger in the capital investment required, bigger in the amount of product that a family can produce during the year, because of the technological changes that have taken place in American agriculture.

FAMILY-SIZED FARM

Mr. ANDERSEN. If Dr. Johnson would, I wish he would place in the record at this point, the official definition as laid down by the Department of Agriculture as to what is a family-sized farm. Will you do that, Doctor? Do you have any treatise on that subject?

Dr. JOHNSON. Mr. Andersen, I am afraid I can't because there isn't an official definition. I can give you my definition.

Mr. ANDERSEN. I am glad to get that into the record. There is no official definition.

Dr. JOHNSON. There is no official definition that I know of in the Department of Agriculture for a family farm, but I would be glad to give you my definition for the record.

Mr. ANDERSEN. I wish you would put in the record at this point what you feel should be the definition of it, and we will call it the Dr. Johnson Theory.

(The information requested follows:)

DEFINITION OF FAMILY FARM

Any farm on which the farm family is the principal source of labor and management, and which provides the main source of income for the family would necessarily be considered a family farm since it is operated by a farm family. Considered in this way, both the family-scale farms and the small-scale farms in the table which I have discussed would be classed as family farms—also perhaps some of the large-scale farms. Most of the small-scale farms, however, are too small to provide a satisfactory income for a farm family over a period of years. They provide work opportunities for less than $2,500 of market sales per year.

If we consider the family farm from the standpoint of efficiency and satisfactory living, it should be large enough to permit efficient use of laborsaving equipment and to provide productive employment for the farm family which will result in a satisfactory income over a period of years.

In terms of a standard of adequacy the family farm may be defined as one for which the principal source of both labor and management is the farm family, and one which is of sufficient size and productivity to pay expenses, including a return on the investment, maintenance of the land, buildings, livestock, and equipment; furnish an income that will provide a comfortable living for a farm family, including food, shelter, medical care, and recreation; and permit accumulation of a reserve sufficient to meet the needs of old age.

Dr. JOHNSON. The "family scale farms" are specifically defined in the table under discussion.

Mr. NATCHER. In placing your definition in the record of a family-sized farm, I would appreciate your putting in the approximate acreage of this farm.

Dr. JOHNSON. That would be very difficult to say, for this reason: A family-size farm, a farm that can be operated by a farm family, varies so greatly in different areas and different sections of the country. Now, in your areas in Kentucky, where they are producing tobacco, which is a very labor intensive crop, it would be rather small. In the wheat country it would be over 800 acres of cropland.

If you get out into the range areas, it would be several thousand acres of rangeland, because it takes 20 to 40 acres to graze a cow for the grazing season. It can't be done in terms of acres, I am afraid.

FAMILY-SIZE FARM IN THE SOUTH

Mr. NATCHER. In your studies of farming generally in the Southern States, have you made any studies at all as to the size of a successful family-size farm in the South?

Dr. JOHNSON. Yes, we have done that. Some work that was started this last year, that Mr. Horan referred to yesterday, was started on this basis—I shall be glad to give you a little background on that. We thought in terms of starting with the objective of equality of economic opportunity. Just thinking of the possibilities of a farmer earning an income somewhat comparable to what he would get with equal skill and effort if he were employed in nonfarm employment. It happens that somewhat comparable work to farming except for the managerial aspect of it, averaged nationally in 1949, about $2,500 per year; and in 1954, about $3,500 per year.

Mr. ANDERSEN. That is not gross income, is it?

Dr. JOHNSON. That is net returns to the farm operator for his labor. It is based roughly on, say, 2,500 hours of labor per year—2,000 to 2,500 hours would be a year's work. We then tried in areas in 6 different States—and I am not counting now the work in the Columbia Basin, Mr. Horan—to determine the size of farms and the resources that a family would need; that is, not only acres of land and the cropland, but the livestock and the machinery that they would need to get an income of $2,500 a year. It varies a great deal over the country.

In the Piedmont cotton areas of the Southeast it takes a relatively small farm in acres. We don't happen to have a study underway in the tobacco areas, but the situation would be similar there. Those are labor intensive enterprises. They put a lot of labor on a small acreage, and to get $2,500 income to the operator per year, it takes say 60 to 70 acres of cropland.

In the wheat areas of Montana it would take about 800 acres of cropland to get the same income. That would mean a very much larger total investment in farming, a very much larger capital investment, but less labor and less in the way of annual operating expenses.

In the South, where you have your labor intensive enterprises, you use a lot more in the way of fertilizer and other operating expenses and the labor of the farmer and his family and some hired labor as well—sometimes on a sharecropper basis—that goes into the operation of the farm.

This research is just getting started. We have no final results on it, but it is going to be very interesting, Mr. Horan, and we will develop it as rapidly as we can.

Mr. ANDERSEN. When you speak about this $2,500 net income, do you charge into that what the farmer and his family gets through having a home to live in or the food they get off of the farm? Is that part of the $2,500?

Dr. JOHNSON. That is part of the $2,500, Mr. Andersen. It is valued at farm prices.

Mr. ANDERSEN. Now let me go further: In view of that, then, the farmer and his family get precious little actual cash for their work throughout the year, do they not? You wouldn't have more than $150 a month as cash income?

Dr. JOHNSON. It would be less than $2,500 in cash income when you include the other. The estimated values of farm products used in the household in this study varies in the different areas from about $150 to $625 per year.

Mr. ANDERSEN. Might I say any taxi cab driver in the city of Washington can go out with a small automobile and make double that amount without any investment in farm equipment; there is something wrong if that is the best we can do with agriculture.

Dr. JOHNSON. We also are developing similar data as to the size of farm that would be required to get a net return of $3,500 a year to the operator. This return is for his labor after an allowance for interest on the investment.

COMPARISON OF LABOR INCOME IN VARIOUS INDUSTRIES

Mr. ANDERSEN. Could you put into the record, for the observation of those who might read it, a little comparison in the lines of income between people such as bricklayers and union men of various industries, what they get in the line of actual cash income, in the line of wages annually? Would there be a possibility of having something like that?

Dr. JOHNSON. I will attempt to see what series are available. The Department of Labor publishes series on wages of nonfarm workers.

Mr. ANDERSEN. I would want this drawn up from the viewpoint of the Department of Agriculture. I would like to show here the real picture. After all, $2,500 net income is mighty small if we are to figure that to be—did you say the average net income of the family-sized farm in America; is that it?

Dr. JOHNSON. No, I didn't say that, Mr. Andersen. We started on the basis of what size farm and how much in the way of capital and other things it would take to get a net return to the operator of $2,500. Then we have another series of studies that would indicate how much it would take to get an income of $3,500.

Now, it seems from the little work we have been able to do so far, that in some of the areas in which we are working, both the $2,500 income and the $3,500 income are above what the great majority of farmers in the areas in which we are studying are getting.

Mr. ANDERSEN. That validates my point. I would like something in the record to compare the two.

Mr. JOHNSON. We will try to get what comparisons we can.

Mr. ANDERSEN. Thank you.

(The information is as follows:)

Tables 1 and 2 give comparisons between incomes on specific types of farms in different areas and earnings of workers in manufacturing industries. It should be noted that the net farm income figures shown in table 1 include a return for both labor and farm capital. The return for labor figures show the amount available as a return for the labor performed by the operator and his family after deducting a charge for farm capital.

TABLE 1.—*Net farm income, total farm capital, and return to operator and family labor, on commercial family operated farms by types of farms, average 1947–49 and 1955*

Type of farm	State in which major part of area is located	Average 1947–49			1955 [1]		
		Net farm income	Total farm capital	Return for labor [2]	Net farm income	Total farm capital	Return for labor [2]
Dairy farms:							
Central Northeast	New York	$3,892	$21,470	$2,801	$4,433	$26,000	$3,033
Eastern Wisconsin	Wisconsin	4,365	27,360	3,064	2,839	33,070	1,145
Corn Belt farms: Hog-dairy	Iowa	5,639	32,440	4,130	4,189	43,530	2,021
Tobacco farms: Tobacco-livestock	Kentucky	3,334	19,050	2,414	2,850	23,590	1,617
Cotton farms: Southern Piedmont	Georgia and South Carolina	1,565	11,290	999	2,240	15,510	1,338
Spring wheat farms: Northern Plains [3]	North Dakota	6,323	31,090	4,822	5,800	41,590	3,624
Winter wheat farms: Southern Plains	Kansas	10,017	55,970	7,445	5,112	75,450	1,442

[1] Preliminary.
[2] Of operator and family after deducting interest charge on capital.
[3] Wheat-small grain-livestock farms.

TABLE 2.—*Estimated average gross annual earnings of production and nonsupervisory workers in specified industries for the United States, and in all manufacturing industries for selected States, 1949 and 1955* [1]

Industry or State	1949	1955
All manufacturing	$2,856	$3,979
Textile mill products	2,331	2,898
Agricultural machinery and tractors	3,178	4,360
All manufacturing industries for selected States:		
New York	2,961	3,909
Wisconsin	2,932	4,192
Iowa	2,897	3,937
Kentucky	(2)	3,731
South Carolina	2,078	2,772
Georgia	2,018	2,808
North Dakota	(2)	3,559
Kansas	2,896	4,202

[1] Estimated from data on average annual weekly earnings from Employment and Earnings (Annual Supplement Issue) 1955 and 1956, U. S. Department of Labor, Bureau of Labor Statistics by multiplying by number of weeks in year (52).
[2] Not available.

Source: Prepared in Production Economics Research Branch, Agricultural Research Service, USDA.

Dr. JOHNSON. You may be interested in three additional items from the work of the past year:

FARM MORTGAGES AND SHORT-TERM DEBT HIGHER

Total farm-mortgage debt increased in 1955 for the 10th consecutive year. On January 1, 1956, it totaled $9 billion, nearly 10 percent above the previous year. This is the highest figure since January 1, 1932, and is 88 percent above the postwar low in 1946. Farm-mortgage debt continued to rise in 1956, and preliminary estimates indicate a total of about $9.8 billion on January 1, 1957. Non-real-estate farm debt (excluding price-support loans) also moved upward to $7.9 billion on January 1, 1956. This was 8 percent above a year earlier and about 2¾ times as large as at the beginning of 1946. Preliminary estimates for January 1, 1957, indicate a total of $8.2 billion. Total farm debts, excluding price-support loans of the Commodity Credit Corporation, are estimated at $18 billion on January 1, 1957.

FARM TAXES UP SHARPLY

Analysis of the preliminary survey of 1956 tax levies on farm real estate, payable largely in 1957, shows the average taxes per acre to be about 5.6 percent higher than a year earlier. This is the 14th consecutive year of increases and the average tax per acre will reach an all-time high. Compared with the base period (1909–13=100), the index will be about 445. For 1956 taxes levied on real estate and personal property will total about $979 million and $225 million, respectively.

Farm personal property taxes levied in 1956, payable largely in 1957, will be about 3 percent higher than a year earlier. This increase is due mainly to higher tax rates caused by highway and educational expenditures.

ADJUSTMENTS ON SPECIALIZED COTTON FARMS CAN INCREASE FARM EARNINGS

A study in west Tennessee indicates that adjustments on small upland farms can bring about an increase in family farm earnings of about $1,340, or 89 percent more than from present farming systems (based on 1949 price level). The adjustments involve a reduction of 24 percent in cotton acreage and addition of dairy and hog enterprises. Addition of these enterprises would require an additional investment of $2,735, or 47 percent more capital.

On large upland farms a 50-percent reduction in cotton and the reorganization of the farming system to include dairy and hog enterprises would result in an increase of $2,160, or 100 percent more family farm earnings than with the present farming system. This change would require an increased investment of about $14,000, or 82 percent more than is invested in the present system. Another alternative involving the same reduction in cotton acreage and the addition of beef cattle, hog, and poultry enterprises would result in similar increases in family farm earnings and would require about the same amount of

additional investment in the business. Compared with present farming systems, the alternative systems would incorporate idle land into the cropping system and would result in increased crop yields through use of more efficient production practices.

RELATION OF SOIL BANK PROGRAM TO ECONOMIC STUDIES

Mr. NATCHER. Has the soil-bank program curtailed your studies to any degree?

Mr. JOHNSON. It hasn't curtailed our studies. With regard to this particular study, we are just getting started on it. We do want to carry it on, on the basis of indicating what would be required with the soil bank and the other programs that are in effect, and what would be required under a long-term projection of prices, which perhaps would not include some of the present adjustment programs.

Mr. NATCHER. What I refer to pertains to your statement of a few minutes ago about making studies concerning other types of commodities where we have commodities in surplus. Has the soil-bank program affected any of your studies along that line? In other words, you are trying to take land out of production and in certain instances, not to do any producing on this land. Has that curtailed your studies any?

Dr. JOHNSON. No; I can't say that it has, Mr. Natcher, and I don't think it will for this reason—the soil bank will absorb only a part of the acreage that is diverted, and I don't think that it would make any inroads on the development of new crops which are, we will have to admit, largely in the developmental stage. There will be ample acreage for development, even with the soil bank.

INCREASES FOR PRODUCTION ECONOMICS RESEARCH

Dr. JOHNSON. We have in production economics, an increase of $731,000 to provide economic data for development and appraisal of farm programs and for research on the financial condition of farmers. The major problem of farmers, I would say now and for the next 5 years, at least, is the question of how to adjust production to prospective markets.

That involves adjustment of both the total output of farm products, which I mentioned a little while ago, and the output of major commodities. In other words, even if the total output becomes fairly well balanced with market outlets, we can still have difficulty in products such as wheat, because there just aren't any available alternatives at the present time, and we have to work awfully hard on that.

Of course, in addition to the acreage allotment, marketing quota, price support, and conservation programs, we have now the soil-bank program, with $1.25 billion in the budget for 1958, and we very badly need practical and continuing economic analyses as background for these programs. That has to be done area by area, for farms with similar production opportunities, as a basis for development and improvement of these programs.

The research so far has been largely sporadic. That is, with limited resources, we have had to work in areas where the difficulties were greatest, and then turn to other areas. What we are suggesting here is that we need continuing information concerning changes, area by area; changes which farmers are making as a result of these programs, and

to evaluate the effectiveness and adaptability of alternatives or modifications, and to analyze—and this would be on an overall basis—to analyze progress in balancing production with available markets.

The item that you have before you in the budget would enable us to provide continuing information in about 35 of the 100 or more different farming areas in the country. We are not making a request at the present time to undertake this research for the entire country. The budget, of course, is limited, and we would rather take it somewhat more slowly and develop a sounder background.

In these areas we would have a continuing appraisal of the changes in sizes of farms, in production, in adoption of new technology, in costs, income, and investments and in debts on the common sizes and types of farms. Along with that we would have the analysis of sizes of farms to provide a given income that I spoke of a moment ago.

The work would be cooperative with the land-grant colleges. Let me say that the research we are requesting here has been given top priority by the Department's Research Policy Advisory Committee. They have mentioned the need for this 2 years in succession, I believe at every meeting that they have had of the Committee. Our Production Economics Research Advisory Committee also has given this work top priority for the last 2 years.

We also need special emphasis on changes that are taking place in landownership, in the land market, and the financial condition and the tax burden of farmers. At present we know that land values have been going up. I have the charts here if you want to take a look at them. We know very little about who is buying the land. We know that indebtedness has been going up, but we don't know who owes the debt or how it is distributed. I think we discussed that at considerable length last year. Nor do we know what the taxload means to different groups of farmers. We have the aggregate estimates but we need to get back of these. We would use about $200,000 of this request for special emphasis on work of that kind.

You might be interested, also, in view of the discussion that we had a moment ago, in this chart on farmland purchases for farm enlargement in 1956. The next chart shows that the investment per farmworker has gone up sharply—this is one that you have been interested in over a period of time, Mr. Marshall. The investment per farmworker as compared to workers in other industries is shown in one of the tables.

ECONOMIC STUDIES OF IRRIGATION IN UPPER COLORADO RIVER BASIN

The last increase item, as I mentioned previously, is a companion item to the one we are requesting for soil and water conservation research. It involves $104,000 for economic studies of irrigation in the upper Colorado, with special studies to determine the most economic sizes and types of farms on specific projects—projects within the upper Colorado Basin with different soils and with differences in altitude and growing conditions.

We will analyze the changes that are needed on farms that are now irrigated—and much of the development, of course, is providing additional water to land that has already been irrigated—and the changes that will be needed in farming when the additional water becomes available. We would also appraise alternative methods of development of new land and the amount of capital and the credit that

will be required, as well as the impact of irrigation development on the general economy of the area.

That, Mr. Chairman, concludes my statement on the request.

CHANGES IN VALUE OF FARMLAND

Mr. MARSHALL. You may be sure, Dr. Johnson, that your statements will generate quite a bit of discussion on the part of this committee on a number of questions. I am interested in your chart on Changes in Dollar Value of Farmland. According to the index figures, how do these compare with the high point in the twenties?

Dr. JOHNSON. They are higher.

Mr. MARSHALL. Are there any States in the Union that are lower than they were in the twenties?

Dr. JOHNSON. Yes.

(The information requested follows:)

States with land values as of Nov. 1, 1956, below the peak levels of 1920

State	Index of land values (1947–49=100)	
	March 1920	November 1956
Iowa	146	141
South Dakota	207	143
Nebraska	144	134

SOCIAL SECURITY AND THE FARMER

Mr. MARSHALL. Last year we had some discussion with you concerning a study that you are making as to what impact, if any, the retirement on social security would have on farmers. Have you progressed to any extent with that study?

Mr. JOHNSON. We have a report out on that.

Mr. HEISIG. We have prepared a report that was distributed by the Federal Extension Service which analyzes the provisions of the Social Security Act, insofar as it relates to agricultural people, to indicate the options that they have, and what they must do to participate, and what some of the effects of participation will be on landlords and tenants, and so on. It is in this publication entitled "Farm Tenure and Family Adjustments to Social Security," which has gone out to the State extension services.

We have not carried out any research as yet in terms of what the impacts of social security have been, because there hasn't been enough experience to see what the effect has been, but we expect to make further study of how farmers can participate, what the effect will be on farming, how they can take advantage of the provisions, and so forth.

Mr. MARSHALL. Are you carrying forward any studies to determine if farmers are actually retiring because of their ability to receive social security retirement benefits?

Mr. HEISIG. I don't think we have anything that would relate directly to that. The time is so short that we don't have sufficient history to study it. When we have more experience we want to get into that.

Mr. MARSHALL. My question was not as to what you had but what you are planning to do.

Mr. HEISIG. We have talked about the need to initiate that kind of work after we have had some experience with the program so that we have some data that we can collect.

SALES OF FARMLANDS

Mr. NATCHER. Dr. Johnson, in the agricultural States in the United States where we have no nematode situations or drought situations, do you find from your studies that more farms are changing hands today, or fewer than a year ago?

Dr. JOHNSON. As far as purchases are concerned—you check me on this, Mr. Heisig—it is my recollection that there are fewer farms changing hands now than 4 or 5 years ago, but slightly more than last year.

Mr. NATCHER. It makes it a little more difficult to make this type of a study, as shown by the chart here, than on changes in common value of farmland, when there are not too many changes.

Dr. JOHNSON. Yes; that is true. Of course, I think there are enough transfers so that on a State-by-State basis we can do it fairly adequately within the resources that we have available. Actually, we need to get behind this to see who is buying the land. Are they buying it for farm enlargement, or are they buying it for an investment, and how important is this flight from the cities out into the rural areas to establish homes; how important is that.

For example, in Florida, and elsewhere, retirement farms are very important. Those are the kinds of things we want to get into.

Mr. MARSHALL. Mr. Andersen.

PRICE SPREAD BETWEEN FARMER AND CONSUMER

Mr. ANDERSEN. Why should we in Tyler, Minn., Dr. Johnson, receive only 24 cents a dozen for the very top, grade A, eggs in our local place of business, which is a subsidiary of Safeway Stores here in Washington, D. C.? Those same 24-cents-a-dozen eggs, we have to pay at least 69 cents for those eggs right here in Washington, D. C. That gets back to my old lamentation, or whatever you might term it, that we have had no real study made through the years to try to put emphasis on what happens to that—in this case—that 45 cents a dozen. When those eggs leave the farmer in my area in Minnesota—and I know truckload after truckload comes into the eastern market and we pay 69 cents a dozen right here for them in the grocery stores, here—and, mind you, it is getting pretty close when you figure that Brentwood, back in my home town, in Tyler, is a subsidiary of Safeway.

Can you give me a little enlightenment on where that 45 cents goes to?

Dr. JOHNSON. That happens to be Mr. Wells' field. I suggest you ask him that question.

Mr. ANDERSEN. I have asked that same question for the past 12 years, and I have as yet to get any really concrete results, and I thought perhaps you could help get some of the answers in your research.

Mr. Chairman, I know they are making intense studies on this very general question.

Dr. JOHNSON. Yes, they are.

Mr. ANDERSEN. I do hope they come up with the answer. Frankly, it is disturbing to hear these people in the East, here, talk about the high cost of living and at the same time hear my farmers from back home write me that they are not getting enough out of their poultry flocks to even make a go of it. There is something wrong in between. I think the Department of Agriculture could do a real service to everybody in America if they could put a little pressure on these people in between to hold that down.

Now that is one thing I want to commend Secretary Benson on. Mr. Benson has instituted an egg-buying program this past week back through that area and I want to thank him for that. Mr. Benson last fall took it upon himself to fight against one of these numerous freight-rate increases, which every so often the Interstate Commerce Commission comes in and grants to the railroads through our area, placing more expense upon the shippers from back in the Midwest into this point and taking a little part of that profit that should rightfully, I think, go to the farmers. It is becoming a very serious situation, and when we get the transportation people before us, we will have our annual festival with them on that particular thing because it is very important.

Mr. HORAN. I think they are doing a good job down there in the Department.

Mr. ANDERSON. The Department of Agriculture is doing a good job and the Secretary is doing a fine job there, in protesting against laying onto the backs of the farmers—what is it, 13 freight increases since the close of World War II?

Mr. NATCHER. It is 13.

Dr. JOHNSON. We were asked to supply information on the effect of freight increases on farmers.

Mr. ANDERSON. If you can give us some real results in research along lines like that, you folks won't have much trouble getting appropriations out of this subcommittee for further research. You can do a fine job for everybody concerned.

ECONOMIC RESEARCH TO SUPPORT FARMERS' HOME ADMINISTRATION PROGRAM

Mr. HORAN. Dr. Johnson, I was impressed yesterday with one paragraph in Secretary Peterson's statement. I would like to read it again so we know what we have before us.

> If we are to keep our farm programs geared to farm needs, we must develop and maintain for significantly different farm situations, current information on farm size, farming systems, farming practices, tenure, production costs, income and investments and year-by-year changes that farmers are making.

Now, I think that is very essential for several reasons. For instance, you are aware, of course, that we appropriate money for Farmers' Home Administration funds and we request them to make loans to farmers, so that the farmer can succeed. He has to have an operation that will sustain the possibility of a loan. That requires the men in the field—and out our way they are doing a pretty good job—to determine the feasibility of the loan. They have to take a

look at his operation, at his expense, at the size of his operation, and anything that might contribute to additional expense—for instance, if he is a tenant and if he is required to pay to the owner of the property a certain percentage of the income from that operation.

All of us on this committee are proud of the work the Farmers' Home Administration has done. We think they have made real citizens out of folks who might otherwise be failures—and perhaps in some cases if they were that type, a menace to society, at least welfare cases—that we have made real citizens through that type of loan.

However, we still have to make feasible loans, because there is no sense in our loaning money to a man who won't succeed. We don't want him to starve to death, or his children to go shoeless while he is getting someplace.

If a truckdriver is entitled to $2 an hour, or $16 a day, the farmer is entitled to something. That is all involved in what his investment is if he has a farm that is a sufficiently safe operation to merit a feasible loan from the Farmers' Home Administration.

I don't know where they might get those benchmarks except from you.

Dr. JOHNSON. I think that is our responsibility.

Mr. HORAN. Now, involved in all this is a very serious responsibility because we want to make these loans. We have laws on the books which require in certain areas, acreage allotments. We need to know what the exact impact on a family-sized farm is if we have to invoke acreage allotments on a cotton patch, for instance in the South.

When we did, we had about 60,000 sharecroppers on relief down there—that is a matter of record. In the tobacco area, some of the farms which are small—it made it difficult. In some of our summer fallow wheat areas where they only farm half the acreage each year—in other words, they farm every other year—we need to know the effect, there, on the farmer's income, of acreage restrictions.

I heard Mr. Peterson yesterday state this, that we would come up with some real benchmarks on what the size of a farm is.

Personally, if you are going to go into beef production, you have to have what the old West calls a spread. You have to have your bottom land to raise your hay for feeding, and a good operator only feeds hay about 6 weeks to 2 months, if he is a good operator. He has to have spring range, he has to have summer range, he has to have winter range.

That is all involved in what constitutes an economic unit in beef production.

Dr. JOHNSON. That is correct.

Mr. HORAN. And sometimes I think we need all the information, as Mr. Peterson said, developed, and it ought to be maintained from year to year because at one time "40 acres and a mule" was all you needed to start farming. Today you have to have an investment on the average, I would say, of not less than $20,000 if you are going to farm the farm yourself.

Some of the injustices in farming in this country is due to our lack of knowledge, well disseminated, on what the size of a farm should be if a farmer is going to succeed.

Dr. JOHNSON. Well, Mr. Horan, that is the very purpose of this increase, to follow the changes on a continuing basis and to develop

in addition to that as I mentioned in my previous testimony, the size of the farm in different areas and with different types of farming that would provide a given income.

We shall have to do that as you indicated, in terms of what it would take with present programs including the soil bank and what it is likely to take over a period of years.

Now it is a big job. We want to go at it thoroughly. We want to do it as well as we can and we want to do it as fast as we can.

INCOME OF FARMERS

Mr. HORAN. I think as a starting point we might assume that the average American small farm today is entitled to an interest return of around $1,200, at 6 percent. That is about $20,000. The farmer, if he is a good successful man—and we try in Farmers' Home Administration loans, to only loan to those who are industrious and who know their trade, in whatever line of farming they are going into. They don't work any 40-hour week. They work from sunup to sundown and sometimes later. I insist that they are entitled to pay for that. I suggest as a starting benchmark, that we ought to begin our thinking at the level of assuring an American farmer at least $5,000 a year. And the average farmer, if you will assure him and his family even the minimum wage—by law the minimum wage—he will earn it. I think if we in our economic studies, if we fool ourselves by approaching it from any other way we are doing a disservice to the rural people of the United States.

Dr. JOHNSON. I am very glad to have your observations.

Mr. HORAN. Dr. Johnson, it is my observation that some of the inequalities that afflict our agriculture and our farmers today are the lack of information as to what they need to succeed. I think we ought to have a bulletin out in the hands of every extension worker, and in the hands of every fieldman for the Farmers' Home Administration on the general treatise of economic units in all lines of farming, for the protection of those who go out into the fields to earn a living and to feed America. I think it ought to be there and I think it ought to be revised and brought up to date every year.

Dr. JOHNSON. I agree with you, Mr. Horan. We ought to have that type of publication for each of some 100 different farming areas. We would have to do that for at least 100 areas because the situation is so different.

VALUE OF FARMLAND

Mr. ANDERSEN. I note on this chart that you have handed us, Doctor, it shows that in the State of Minnesota, there is a 5 to 7 percent increase in the value of farmland from the period November 1955 through November 1956.

Dr. JOHNSON. It is actually 5 percent.

Mr. ANDERSEN. That indicates to me, Doctor, 1 of 2 things. Either that farmland in Minnesota is too high priced, at this time, or on the other hand—and I believe that this is the fact—agriculture in Minnesota does not secure the proportionate share of our economy. Now the valuation of the land I believe shows the real value of that land, but I again point out that nationwide agriculture, since 1947, has been denied a rightful $8 billion in annual gross income to which

it should have been entitled, had agriculture been and remained on the same economic level as the rest of our economy.

I hope this: that if your studies are made concerning the value of the land, that also along with it will go studies which would show what the values of that land should be, if they were in the category as I have stated before, of being where they rightfully should belong in our economy.

FACTORS CAUSING INCREASE IN FARMLAND VALUES

Mr. VURSELL. When we have to concede that agriculture income has been below par for some years, what has been causing the price of agriculture and farmland to increase?

Dr. JOHNSON. As I said a moment ago, we do not have the information, we have not been able to get it with the resources available and therefore all we can do is speculate the best we can from such sources of information as we have.

Mr. HORAN. Is the budget before us ample for the work that needs to be done?

Dr. JOHNSON. The budget before us will give us a good beginning. I think I said in my testimony on the increase that it covers about 35 of 100 or more farming areas. I think it will enable us to get a good start and we want to do it well.

Now, turning to your question more specifically, Mr. Vursell, there are a good many factors influencing land values. One of them is that farmers are enlarging their farms and that there is considerable competition, as was indicated in the chart that I passed around, from farmers themselves for land for farm enlargement, and of course, beginning farmers.

We don't know how much in the way of outside capital is going into agriculture—that is nonfarmers who are investing in land.

We do not know how much these indexes that are shown on the chart here are influenced, especially in some States, by this movement toward part-time farming. There is a very considerable increase in population in this country, and what you might characterize as a flight from the cities, out into the rural areas.

Now, the suburban values are not included, but suppose a farmer sells out to a suburban development. He is then in the market for another farm somewhere and so it is reflected into this land-value structure.

Now, I believe there is also a very considerable element in this, that people do have confidence in the long-term prospects of agriculture, and I would say rightly so. Therefore they are maintaining their confidence in land values. That is true of farm people.

Mr. VURSELL. What did we do to increase national prosperity during the last few years—and it may partially be due to a great many people who have made money on the farm, regardless of what they say, sufficiently to add to their holdings. I think another thing is, it is due to the fact that the little farmer with the increase in technocracy, if that is a proper term, is becoming a big farmer and is buying the first 40 or 80 acres he can get with which to expand his operations.

I know of 1 or 2 counties where I have been looking to buy a farm that I am told—one of them is a German county—you can't buy a

piece of land, I don't think, a good farm in this county because some member of this big family who wants to remain on the farm, he is buying the farm when he gets married and starts into farming.

Then, I think there might be another influence in this thing, that the part-time farmers who have extra money that they made in business and industry regard agriculture, or farmland, as about the safest security they can buy. There are probably other factors, but from my observation, living in an agricultural area, there is plenty of money in my county, mostly in the hands of the farmer, if not someone in town who is ready to buy a farm when it goes on the market.

Down in southern Illinois where our farms are now selling for probably an average of $125 to $150 an acre and some of them higher, some a little less, a number of years ago during the depression you could have bought them for $15 and $18 an acre.

We do have a considerable prosperity among the farmers but it is so much less than it was before down our way that they are almost inclined to think that it is worse, probably than it is.

That is the way it looks to me. I asked you the question and I think you gave me some pretty good ideas and I apologize to you and to the committee for trying to help, from my limited experience, to answer my own question.

Dr. JOHNSON. Thank you, Mr. Vursell.

Mr. MARSHALL. Dr. Johnson, we want to thank you and your people for appearing before us. We always enjoy having you and we always know we will have an interesting session when you come up here. There are so many things you are interested in that we are also interested in.

Mr. HORAN. I want to thank you gentlemen for being here, too. I want to assure you, though, that I am not going to let up until I get something that looks like what we ought to have for the good of all: An economic unit study, if you want to call it that.

LIVESTOCK RESEARCH

Mr. MARSHALL. We will be very glad to hear from Dr. Byerly at this time. Any statement you wish to make will be satisfactory.

Dr. BYERLY. Thank you, Mr. Marshall. I would like to discuss a few items of progress in our research program during the year.

PERFORMANCE TESTING OF LIVESTOCK

I should like to begin with the general problem of performance testing. Dr. Shaw reported on performance testing with beef cattle yesterday afternoon so I will go on with the work with respect to hogs, sheep, poultry and dairy cattle.

Performance testing, as you know, is a way of carrying our research into field tests. Our breeding research in the laboratories and experimental herds must be confirmed and put to work in flocks and herds of breeders.

SWINE TESTING

With respect to our work in swine, performance testing in the United States is quite new. It was tried about 30 years ago but at that time interest was not sufficient to sustain the work. The testing

was patterned after the Danish system of performance-testing swine for rate of gain, quality, and feed efficiency.

During the past 5 years new starts have been made by breed associations and by several of the States and we have cooperated with them in developing and improving methods of testing.

The work with swine is based on some 20 years of cooperative breeding research which established first of all that there is genetic quality for meat type in every one of our breeds and crosses of swine and that it is possible to identify it in live hogs; also, that it is entirely compatible with feed efficiency. Testing is accomplished through breeder cooperation and will change our market hogs to a meatier and leaner type of hog.

POULTRY TESTING

With respect to performance testing in poultry there is a longer history of testing. It was initiated more than 30 years ago by poultry breeders. It was followed with initiation about 20 years ago of the cooperative national poultry improvement plan. Under this plan tests are completed on the breeders' own flocks in cooperation with Federal and State agencies. Early tests have now been supplemented with a good many tests called random sample tests, in which samples of the stock from the breeding flock are brought to a central station and tested for performance, either with respect to egg production or meat production capacity.

The effectiveness of performance testing and its application in breeding flocks of poultry may be attested in part by the 50-percent increase in egg production per hen which has been accomplished in the last 25 years; also, by a very substantial increase in rate of growth of meat-type chickens which may amount to as much as 30 percent in that same interval. Not all of this is genetic progress, of course. A substantial part is improvement in management and improvement in nutrition which go together with any breeding improvement program.

At the present time, in order to make further progress with respect to the productivity of our poultry flocks, our workers are not concerned so much with breeding as with the genetic capacity of the flocks from which samples are drawn. Many factors require evaluation here—performance on the customer's farm and the extent to which that performance may reflect the performance obtained under perhaps better conditions in the central performance tests, or on the breeder's farm.

In evaluating this particular phase of performance testing we are cooperating with the University of California, and thus indirectly with some 45 breeders in that State with the random sample performance tests and with some 10 commercial flockowners. We are checking the performance of the stock with respect to egg production on farms, in central tests, on the floor and in cages. This will give us an opportunity to determine whether some flocks react more favorably under some conditions of environment than others, a most important problem.

SHEEP TESTING

With respect to sheep, the performance testing is still in its infancy. At our Dubois, Idaho, station, in cooperation with the 11 Western

States and Texas, a performance feeding trial with ram lambs was conducted this last year. Its first results were impressive. I hope the future lambs will give equal results.

Where we expect in the normal feed lot operation to feed a 65-pound feeder lamb 100 days and have a 100-pound market lamb at that time, a rate of gain of 0.35 pounds per day, these ram lambs were fed for a comparable period and gained 0.73 pounds per day, or double the rate. The variation in individual animals was from a quarter of a pound to a pound and a half a day.

This is an example of the growth potential that is in feed-lot lambs—that is, a portion of it is genetic potential.

Now, to come down to the oldest of our——

Mr. ANDERSEN. Were those results obtained by ordinary feeding?

Dr. BYERLY. These were by ordinary feeding, Mr. Andersen, with this exception, that the ram lambs were individually fed. They were fed a rather surprising diet that consisted of about 7 parts roughage and 1 part concentrate. These were remarkable results. It is cold out there in the winter time and their appetites are good. I cannot give you any other explanation but they were good results.

DAIRY CATTLE TESTING

With respect to the measurement of performance in dairy cattle, the dairy herd improvement program, or its antecedents, is 50 years old. Testing started in Michigan in 1905; the first results were completed in 1906. Records have been studied throughout the 50-year period of time. However, though the number of cows presently under test in dairy herd improvement associations in the United States is substantial—there are about 1,400,000 in the dairy herd improvement tests—they amount to only about 5½ percent of all of our dairy cows.

Now, the participants—and these participants form their own voluntary associations—employ their own workers to make the milk tests in cooperation with the Federal Extension Service and the Dairy Herd Improvement Association in our Dairy Husbandry Research Branch. Participation is still only 5½ percent—that is, our records show that percentage know what their cows produce and what feed they eat to get that production, and are able to handle their herds in a fully knowledgeable and economic fashion.

In contrast, in Denmark some 60 percent of the cows are under comparable tests. We feel that the first requirement in improving the efficiency of milk production is to increase the milk production per cow, because labor, a high-cost factor in milk production, is more or less highly correlated with the cow rather than the amount of milk she gives. A cow giving 12,000 pounds of milk only takes a little more labor than the average cow in the United States which produces about 6,000 pounds. While the average cow requires some 150 hours of labor we feel we can improve the efficiency of labor use very greatly by improving the amount of milk produced per cow.

To illustrate the importance and validity of the assumption that by operating under the Dairy Herd Improvement Association this can be accomplished, we can point to the very substantial increase in gain that has been made during the period of time it has been in operation, which is several thousand pounds of milk per cow. Participation in the Dairy Herd Improvement Association encourages farmers to adopt

new practices developed from research. Its influence also spreads in the communities of those participating in it.

I can point, too, to research under laboratory conditions that many of you have seen at Beltsville. During a 30-year period of time in the Holstein herd there, in which proved sires have been used for 8 generations, the butterfat production has been increased 170 pounds—that is, from the original 540 to the present 710 pounds per cow per year. In the United States our method of proving sires is not entirely, but largely through the Dairy Herd Improvement Association work.

The increase item for dairy husbandry research is related to this work. It is described on page 30 of the House notes. This increase of $154,000 is for the dairy herd improvement and sire-proving programs. I will not read the entire statement, which in my opinion is an excellent one. With your consent I would suggest it be inserted in the record. This work is our means of proving sires.

Mr. MARSHALL. Without objection, that page will be placed in the record.

(The information referred to follows:)

INCREASE OF $154,000 UNDER THE ACTIVITY "DAIRY HUSBANDRY RESEARCH" FOR RESEARCH TO EXPAND AND IMPROVE THE DAIRY HERD IMPROVEMENT AND SIRE-PROVING PROGRAMS

Need for increase.—One of the greatest needs of the dairy farmer today is to reduce the costs of milk production and to improve efficiency. Enrollment of his herd in the Dairy Herd Improvement Association (DHIA) will provide the basic information he needs to accomplish this. DHIA recordkeeping provides the farmer with information that enables him to cull the unprofitable cows, feed the remaining ones according to producing ability, and select the best animals for breeding replacements. In order to accomplish this objective the national cooperative DHIA program has developed a plan of recordkeeping in addition to the two already in use, thus broadening this service to dairymen. The new plan is simple, low in cost, and especially suited to the small family-size dairy farmer. It is anticipated that over the next few years 40 to 50 percent of the dairy cows could be enrolled in 1 of the 3 plans of recordkeeping, compared to the present 7 percent.

The Department's responsibility in the national cooperative DHIA and sire-proving programs is to coordinate, supervise, and provide uniformity in methods and procedures; to summarize, analyze, and report results and make them available to the industry; and to conduct research studies on various phases of the program. Increased funds are needed to modernize present recordkeeping, to improve methods of evaluating production records used in sire proving, and to make such information available to the industry. The new recordkeeping plan will involve large amounts of printed supplies and materials in order to maintain and disseminate the information.

Recording the performance of cows in DHIA is a key to reducing costs and improving net income from dairying. In 1955 the average production of cows in the national cooperative DHIA program was 9,500 pounds of milk. This is 63.3 percent greater than the 5,815-pound average for all cows kept for dairy purposes. Participation in DHIA encourages farmers to adopt new practices developed from research more rapidly than nonparticipants. DHIA studies show that a 7,000-pound cow returned $67 more, a 9,000-pound cow $97 more, and an 11,000-pound cow $136 more over feed costs than a 5,000-pound cow. Even though high-producing cows take more feed for maintenance and production than low-producing cows, the income over feed costs increases as the level of production increases.

One important phase of the DHIA program is sire proving. The records of the production of individual cows in herds of participating farmers are used to determine the transmitting ability of sires. This program locates and identifies the superior transmitting dairy sires in the country. This activity is of great importance in selecting sires for use in increasing the producing ability of the Nation's dairy cattle. The search for, and use of, superior production-proved sires is soundly conceived and based on research demonstrating the value of

this method of improving the producing ability of dairy cattle. It is widely practiced in the industry, especially through artificial breeding which now is serving over 5½ million dairy cattle. More than one-third of the sires in the studs are production-proved sires, and the search for additional meritoriously proved sires is intense. The problem of obtaining more reliable proofs on sires is acute because of the many environmental factors that affect production records of cows. Additional research is needed to develop more accurate methods to evaluate these records and improve sire provings.

Since 1947 the number of cows enrolled in the DHIA program has increased by 81 percent and the number of individual cow production records received for use in sire proving has increased by 154 percent. Electronic calculating equipment has been used to the fullest extent in processing the records. Even so, it has not been possible to keep the analytical work on a current basis. The number of employees available for this work has steadily decreased in recent years, due to increased operating costs. Currently, plans are being made to adapt the program to newly developed, high-speed, magnetic-tape, electronic data processing equipment. This change would not reduce the overall cost of operating the program but would permit a more complete job of analysis of the data. It would not permit savings which would meet the needs in fiscal year 1958 of this expanding program. Therefore, the proposed increase is urgently needed.

Plan of Work.—Recordkeeping procedures would be modernized in order to bring the sire-proving program to a current basis. It is expected that the actual changes in procedures would be effected by January 1, 1958. The coordination, supervision, and furnishing of materials and supplies for promotion of the new testing plan also would be undertaken. As the development of the new record-handling procedures is accomplished and the recordkeeping on farms is expanded, it would be possible to conduct needed research studies on various phases of the program, including the development of methods for increasing the reliability of evaluating production records used for sire provings. Such studies would be undertaken in cooperation with the Maryland, Virginia, Pennsylvania, North Carolina, Illinois, and New York agricultural experiment stations.

ARTIFICIAL INSEMINATION

Dr. BYERLY. About a fourth of our dairy cows are artificially inseminated. Some 36 percent of the bulls used for artificial insemination are proved sires, which means that roughly 10 percent of our dairy cows in the United States are mated to proved sires. We feel that the majority of dairy cows in the United States should be mated to proved sires, and the only means we have for this is to expand our cooperative work under the Dairy Herd Improvement Association to increase the number of proved sires available and in use.

PROVING BULLS

Now, there are very great problems here. First of all, if we are to expand this program we must be sure that we are getting adequate proof on our bulls. One of the truisms with respect to the production of milk is that a herd on one farm varies widely from the herd on another farm even though the genetic background be similar. The Danish reports estimate that, with respect to the heritability of differences between herds, only one-tenth of that variation is inherited while among cows within 1 herd the variation is about 30 percent inherited. So if we base proofs on bulls and artificial-insemination centers and their daughters in the herds of cooperators, which is our principal means of proving bulls, we have to take into account the influence of the environment. We have to know what influence that environment had on the performance of the daughters, because if we start to test 8 or 10 bulls, finally only about 1 will come up which is a proved sire to use in artificial insemination.

There might be those people who might pamper daughters of a particular bull and get a better result from them.

The main thing is that we do not know the influence of environment. We do not know how to evaluate the effect of environment on the daughters of particular bulls. We wish to cooperate in studies with several of the States in evaluating the environmental effect on production so the proof of the sires may be better.

In order to take care of the work with minimum staff, we are proposing that a portion of the increase item be used to acquire the use of more modern, high-speed, magnetic-tape, electronic data processing equipment.

Now, I have covered, Mr. Chairman, the general topic of performance testing which included the increase item in the Dairy Husbandry Research Branch.

Mr. ANDERSEN. What is the average age at which you find you are able to certify these dairy sires as proven?

Dr. BYERLY. Dr. Hodgson is here and can give a particular answer.

Dr. HODGSON. It is about 5 to 6 years.

Mr. ANDERSEN. In other words, they have approximately that same amount of usefulness in the future ahead of them, do they not?

Dr. HODGSON. The average life of the bull as an artificial breeding stud is about 4 years after it is proved.

FEEDING PIGS

Mr. ANDERSEN. Doctor, you have gone into the efficiency gained, or the additional knowledge gained through the past 20 to 25 years in feeding methods and such. Now I recall that I conducted an experiment in 1935 on my farm. I remember I put 140 head of 80-pound pigs into comfortable quarters in my barn. I had nothing else to do that winter except to run a detailed experiment on the feeding of these particular hogs and I found when I marketed them—weighing an average of about 225 pounds the following spring—that in order to secure 100 pounds of gain that I had put 39 pounds of tankage per 100 pounds, plus 7½ bushels of shelled corn, plus mineral. Now that was 20 years back. Are they doing much better today?

Dr. BYERLY. Quite a lot better. For example at the Ohio Testing Station which is run under the auspices of the Ohio Swine Improvement Association, a requirement for certification is that both pigs of the pair drawn from 1 litter must not require more than 370 pounds total feed per 100 pound gain. Now yours would require 459, which happens to be very close to the present national average amount for producing 100 pounds of pork, so you weren't doing too badly 20 years ago. But we do better now. At Ames there were many individual boars in last year's test that made 100 pounds of gain on less than 300 pounds of feed.

Mr. ANDERSEN. That would show there has been a decided improvement.

Dr. BYERLY. A very substantial improvement, yes, sir.

Mr. ANDERSEN. That has been due in large sense to the research carried on in these various fields?

Dr. BYERLY. We think so, yes.

Mr. MARSHALL. Proceed with your statement, Dr. Byerly.

CLIMATIC ADAPTATION OF STOCK

Dr. BYERLY. The second general topic that I should like to expand upon is the matter of climatic adaptation with respect to stock.

Several of you are familiar with the fact that in our gulf coast area it has been for a long time customary to use Indian cattle in crosses with British breeds of cattle for the production of commercial beef cattle.

We know both from experience and from many controlled experiments that this cross gives us about a 40- or 50-pound heavier calf at weaning than when bred straight. We know that the female which results from this first cross will wean a heavy calf. Following the introduction of the Red Sindhi into this country more recent experiments have been conducted on the effect of this type of crossing on milk production.

Assumptions have been made and tested that the crossbreeds and the Indian cattle are more tolerant of heat than the British breeds of cattle. This has been well substantiated by experiment and by experience. But the matter of fact is that with respect to milk production, the major factor with respect to heat sensitivity is the amount of milk the cow gives. So that the fact that the crossbreed, the Red Sindhi and the Jersey or other dairy breed, is more heat tolerant, does not make her the economic animal of choice. We have yet to evaluate, and will continue to evaluate in that area, whether the heat tolerance and the relationship brought in through crossbreeding will contribute to heat tolerance and productivity, so we have by no means abandoned the Red Sindhi.

The crosses have not yielded as much as the Jersey. We want to get more milk per cow and get cows more tolerant of heat even though they give large amounts of milk. Our present research in cooperation with the Southern States is largely toward the crossbreeding of our recognized dairy breeds and some of them with black and white spots, too.

The Holstein is entering much more largely into the South than it did formerly because of its capacity for milk production. Then, too, there are better pastures developing in the South and the productivity of the Holstein has improved.

We are also working with the improvement of the Jersey in the Middle South and it has by no means passed from usefulness.

FARM SHEEP RAISING

With respect to sheep—and one of our increase items is for research on farm sheep production—we have a similar major problem of adaptability in the Southeast. You know, Mr. Natcher, that the Middle South has always produced a good many commercial sheep, but it has been a long time since the Deep South produced very many. Interest in sheep has increased very substantially in the last 5 or 10 years in the South, especially in Georgia and Alabama. The percentage of increase there has been something like 300 percent, but they still have roughly only 100,000 each in those States because the number was very small to begin with.

SHEEP BREEDING PROBLEMS

The problems come from the standpoint of sheep that will be adapted to the area. The first problem is with reproduction. Sheep, as you know, normally breed in the fall. In order to be especially useful in the South and to take advantage of winter pastures, sheep must be had that will breed either in the summer, or at least in the early fall, and all of the ewes conceive and give winter lambs so they can reach the early lamb market and take advantage of the winter pastures. This is one of our needs for research.

Just as in Kentucky and all of the States, in the Deep South we are concerned whether the sheep that are raised and are native to the area will provide us the best sort of brood ewes, or whether we shall and must properly continue to import crossbred ewes from the intermountain area and Great Plains. Sheep from these areas have been brought in substantial numbers into your State and other States in the Corn Belt as brood ewes.

FORAGE AND PARASITE PROBLEMS

We know that improvement of forage is not sufficient to establish a sound sheep industry in the South. However, the improvement of forage brings with it the problem of concentration of more sheep on small areas, and because this is a humid area the parasite problem will increase very substantially.

We know of the parasites, and I will come to that in discussing the increase items, too. We know that healthy animals, strong animals, have relatively few parasites and that many unthrifty animals are heavily parasitized. We do not quite know which is the cart and which is the horse—whether the animal is strong because it has few parasites or whether it has few parasites because it is strong.

From experiments that have been carried on at the Regional Animal Disease Laboratory, Auburn, Ala., in cooperation with States in the South, we do know that it makes quite a lot of difference what kind of grass the animals have to eat, both calves and lambs, whether they will be well nourished and carry a small parasite load.

Part of that has to do with the possibility of controlling parasites through the use of our standard control for parasites in lambs, phenothiazine. With some grasses, enough phenothiazine will be eaten to keep the parasites fairly well under control. With other types, so little salt will be eaten that it doesn't work.

Another problem that has arisen is that some of the parasites of sheep are beginning to be resistant to phenothiazine. That is not the only reason why we should seek other parasiticides and biological control of parasites, but that is one of the reasons. There are other parasiticides that are coming along that may be effective. Piperazine is one and there are others which may help us with this problem.

CONTROL OF CATTLE GRUBS

I think, before passing to the specific increase item, I would like to call attention to one rather remarkable achievement, principally attributable to the Entomology Research Branch and to private industry but one in which we have participated, I think, in an important

way, and that is in the use of a chemical called Dow ET–57 for the control of cattle grubs. Cattle grubs have been a source of loss for a long time to cattle hides and a source of annoyance to farmers in Minnesota and in every other State so far as I know.

Now Dow ET–57 has been given by drench and has killed the cattle grubs before they chewed holes through the skin on the backs of the animals.

Our participation in the work has been to determine the toxicity of the chemical compound. The effective dose seems to be about 100 milligrams per kilogram live weight, and this is well below the toxic dose. So, from that standpoint, we are safe.

From the standpoint of the use of the meat and gaining its admission to general use, we still have experiments to run on the possibility of residues. Our present experiments would indicate that in 10 or 11 days the residue had disappeared.

Mr. HORAN. How do you apply this?

Dr. BYERLY. This, so far, has been given by drench. This is not too good a way to do it, but we have hopes that it may come to one shot into the paunch. This is practical with sheep. We have done a little work at Albuquerque with putting a single shot of Dow ET–57 with a syringe right through the body wall, and this gives very promising results with respect to nose bots in sheep. This is only the beginning of the use of systemic insecticides.

Our part is small in this. Entomology research works on this, but we are participating in cooperation with them.

IMPROVED TYPES OF FARM SHEEP

We will turn now to the increase item with respect to sheep. We are asking for an increase of $155,000 for the development of improved types of sheep on farms. It is described on page 27. This item has been discussed with the Sheep and Wool Advisory Committee and they placed it very high on their list of priorities. My recollection is that they placed sheep breeding No. 1 among their production research recommendations, all recognizing the potential value of sheep especially on the small farms and with the increased grass in the South.

I should be glad to be stopped at any time for questions, but if you don't stop me, I shall proceed.

Mr. MARSHALL. I think it would be preferable for you to proceed with your statement, and then I am sure all of us will have questions.

ANIMAL DISEASES AND PARASITES

Dr. BYERLY. I shall proceed to 1 or 2 examples of progress in the disease and parasite field. I should like to discuss briefly with you the progress that has been made in diseases affecting reproduction. You all know, of course, although brucellosis is being eradicated we have not finished with diseases that interfere with reproduction of cattle. Such diseases as vibriosis, trichomoniasis, and leptospirosis, and others remain.

VIBRIOSIS

With respect to vibriosis, which is a reproductive disease of both cattle and sheep, we feel very substantial progress has been made and

verified within the past year. Our research leader in this area, Dr. Archie Frank, has been able to develop a laboratory diagnostic test. It differentiates between the pathogenic type of vibrio, vibrio fetus, and those which are nonpathogenic that also get into the genitourinary tract of cattle. It is a catalase test. Catalase is an enzyme. Vibrio fetus is catalase-positive, while the nonpathogenic types are negative for the test.

We have been able to demonstrate in the herd at Beltsville and in cooperative herds that by limiting an infected bull to infected cows for 3 or 4 years the vibriosis will clear up after 2 or 3 calves have been dropped. We have also demonstrated that the infection is venereally transmitted from the infected bull to the virgin heifer on first service.

Permitting this bull to serve only infected cows, the normal process of culling will gradually and definitely eliminate vibriosis from the herd.

With respect to sheep, the problem is somewhat different. Vibriosis in sheep is sporadic in its appearance. Instead of causing repeat breedings as it does in cattle, it causes abortions late in pregnancy which may destroy the lamb crop in an entire flock, maybe 40, 50, 80 percent of the entire lamb crop during 1 season. However, in such an affected sheep flock, the next year there is practically no loss from vibriosis in that flock. Apparently the one outbreak of vibriosis in a sheep flock gives it an immunity that seems to last, and last against laboratory challenge for about a year.

Mr. HORAN. Is that true with the males as well as the female?

Dr. BYERLY. There is very little work with the male. It is the females that have been challenged. This is necessarily so, because tests with the male would be very difficult. The disease is not venereally transmitted in sheep as it is in cattle, or not usually so. It is transmitted by sheep on the bed grounds. If one aborts, other ewes spread it by eating the contamination. However, it is a veneral problem in cattle. The male would be a little difficult to test.

These tests may be made eventually by isolation of the organism from the male either by culture and injection into the sheep or its oral transmission to the sheep, but this would apply primarily to the female. Now, with respect then to vibriosis, our test is not complete, but we do feel we have made very substantial progress with this disease.

TRICHOMONIASIS

With respect to trichomoniasis and other venereally transmitted diseases, we have a little hopeful progress I should like to tell you about.

We know, of course, that when laboratory diagnosis is made of an infected bull, it is possible, though rather laborious and perhaps even dangerous, to treat the individual bull with a chemical called acroflavine, with some success. A new idea that may lead to more rapid progress with respect to trichomoniasis is this: Our people have developed a technique for using the hamster which is readily infected with trichomoniasis artificially in the laboratory. It is then used as a screening object for testing the effectiveness of other chemicals. One called furazolidone gives considerable promise as a possible parasiticide for this particular organism.

To emphasize my point, a hamster which may weigh 150 grams is a lot easier to handle and considerably cheaper than a 1-ton bull.

LEPTOSPIROSIS

With respect to leptospirosis, our diagnostic means have been improved. Our means of effective protection against the disease are by no means good. We do know that the disease is widespread. A very considerable proportion of herds examined have been found to contain a high proportion of infected animals. The disease is expressed sometimes by conjunctivitis in the calves, by red or bloody discharge in the urine, by jaundice, and by abortion in the herd. We do not know its means of transmission and under what conditions it is dangerous. Presumably, when the herd is newly infected it is more likely to be acute and dangerous than when the herd has been chronically subjected to the disease for some time. This is one of the problem areas upon which we are working.

I think, Mr. Marshall, except for questions, I would like the privilege of asking the insertion in the record of the other examples of progress that are in the notes on pages 98 to 103, with the exception of item 18, item 8, and item 4, which were included in Dr. Shaw's testimony yesterday.

Mr. MARSHALL. Without objection, they will be placed in the record. (The information is as follows:)

LIVESTOCK RESEARCH

Current activities.—Investigations are conducted on all farm livestock, poultry, and domestic fur animals to develop superior strains and types, establish nutritive requirements, determine physiology of reproduction, achieve efficient use of feed and forage in the production of meat, milk, eggs, wool, fur, and other products, develop practical methods of control of diseases and of parasites affecting livestock, and develop improved and efficient dairy-management methods and practices.

SELECTED EXAMPLES OF RECENT PROGRESS

Animal and poultry husbandry research

Selection for backfat thickness effective in developing meat-type hogs.—Tests have been made at Beltsville to determine the effectiveness of selection for high and low backfat thickness in developing meatier hogs in the Duroc and Yorkshire breeds. First year results indicate that replacement breeding stock selected on the basis of high backfat thickness by the probe method are generally shorter, lower, and wider of body than those selected for low backfat thickness. These tests continue to emphasize the effectiveness of selection in the production of meat-type hogs, as well as the value of actually measuring backfat thickness by the probe technique as a basis for selection of breeding stock for this purpose.

Crossbreeding increases both lamb and wool production.—Results of studies at Beltsville indicate definitely that the production of both lambs and wool can be materially increased through the crossbreeding of Hampshire, Shropshire, and Southdown sheep. Of all first-cross lambs produced in these tests during the past 8 years, 78.6 percent were successfully raised to weaning age of 140 days, compared to only 71.2 percent of purebred lambs of these breeds produced during that period.

During the past 5 years, 82.9 percent of the 3-way cross lambs, produced from first-cross ewes and a purebred ram of a third breed, lived to 140 days of age, compared to 75 percent of purebred lambs. Annual production of live lambs at weaning age averaged 76.9 pounds per ewe from this method of crossbreeding and only 59.1 pounds per ewe for purebred ewes of these breeds. Weight of clean scoured wool produced by 3-way crossbred yearling ewes averaged 4.30 pounds per fleece, compared to 3.41 pounds per fleece for the purebred yearling ewes of these breeds.

Dubois studies aid range sheep industry.—Research at Dubois, Idaho, on the development of breeding systems to improve range sheep provide a basis for making material improvement in both lamb and wool production through application of effective methods of selection for desirable characteristics. One phase of these investigations involves the development of estimates of heritability to determine how much gain from selection can be expected for important commercial traits. Estimates of heritability obtained for 34 fleece and body traits of 563 yearling Targhee ewes, for example, showed high average estimates of heritability for unstretched length, handle, stretched length, matching yield, and clean fleece weight of wool. Moderately high average estimates of heritability were found for face covering, staple length, fleece grade, noil yield, body weight, weanling index, matching grade, percent noils, fiber diameter, diameter grade, type, grease fleece weight, and breech grade. These results indicate that handle or softness of wool and possibly clean yield should be considered along with fleece weight, staple length, face covering, weaning weight, type, condition, and other lamb-production traits in selecting for improvement of Targhee sheep.

Feeding stilbestrol to steers does not affect meat adversely.—Results of test feeding of stilbestrol to beef steers at Beltsville confirm previous findings by several State experiment stations that this hormone-like chemical can increase the rate and economy of gains without adverse effect on meat quality. In the Beltsville experiments the use of stilbestrol did not reduce the quality of the carcasses or meat as measured by the usual evaluation techniques, including taste tests. The Food and Drug Administration, using a method which was sensitive to two parts per billion, did not detect any stilbestrol in the meat from steers fed this drug. This was also true in the case of steers fed 3 and 6 times the recommended amount. Feeding these high amounts is not advised because the steers so fed did not make as rapid or economical gains as those fed the recommended amount. These extensive tests contradict the claims made in some quarters that meat from stilbestrol-fed steers is not safe for human consumption.

Lymphomatosis may eventually be controlled through use of a suitable vaccine.—This disease complex causes about one-half of all mortality among adult chickens in this country. Further experiments were completed during the year at the United States Poultry Breeding Laboratory at East Lansing, Mich., which confirmed the previous report that the virus of visceral lymphomatosis, when injected into adult chickens will induce the formation of antibodies. The antibodies appear to be transmitted through the hatching eggs to the progeny, giving them a passive immunity to this form of the disease. In this immunization process advantage is taken of age resistance to visceral lymphomatosis acquired by the parental females. Even though this stock was from a highly susceptible line of birds, there was no indication of visceral lymphomatosis over an extended period among the hens after having received numerous injections of the live-virus during the vaccination process. Although much additional research remains to be done before a suitable vaccine for visceral lymphomatosis can be made available commercially for the immunization of breeding stock, it now appears likely that this cancer-like disease can eventually be controlled through a vaccination program.

Dairy husbandry research

Dairy herd improvement and sire proving work at highest level in history.—During 1955, 636,293 lactation records were received from the various States for use in proving sires. A total of 5,986 sires were proved, the largest number ever proved in any one year. The daughters of these sires average 10,236 pounds of milk, and 415 pounds of butterfat. The national average for all cows is 5,815 pounds of milk and 232 pounds of butterfat.

On January 1, 1956, there were 1,780,785 cows on standard DHIA and owner-sampler test. Of this number 1,406,306 cows were on standard DHIA test, the largest number ever on test in this country. Cows on DHIA test now have an average production of 9,363 pounds of milk and 372 pounds of butterfat, an all-time high level of production.

Embryonic mortality found to be an important cause of infertility in cattle.—It has been established that about 20 percent of embryos are lost due to ill-defined causes within 30 to 35 days after breeding. This loss is an important factor in reduced fertility of cattle. It now appears that the critical period in embryo survival is from 16 to 22 days after fertilization. A collection of suitable embryos has been obtained for a study of causes of early embryo losses. The work has been undertaken cooperatively at the University of Massachusetts.

Inedible fats used successfully in calf starter rations.—Inedible stabilized tallow has been successfully utilized by calves when fed in amounts up to 10 percent of the starter ration. The starter containing the fats was palatable and the calves were 5 percent heavier than the controls at 90 days of age. Use of inedible fats in rations provides an outlet for surplus fats.

Good management improves the yield of dairy pastures.—Research has been carried out at the United States field station at Lewisburg, Tenn., to determine suitable pasture mixtures and management practices for grazing. An alfalfa-orchardgrass mixture grazed rotationally throughout the grazing season produced satisfactory yields over a 5-year period. However, this same mixture produced 40 percent more feed nutrients per acre when rotational grazing followed removal of one cutting for hay or silage early in the season.

Animal disease and parasite research

Experimental anaplasmosis control program conducted.—A program of complement-fixation tests, accompanied by segregation of negative and reacting animals, resulted in the reduction of the disease in a Virginia herd of purebred Hereford cattle. These results suggest the possibility of an effective and practical control program for the eradication of this disease in certain areas by using the complement-fixation test for detecting the infection in "carrier" and subacute cases.

Advance made in standardizing Brucella milk ring antigen.—The aging of hematoxylin dye solution used for staining this antigen has resulted in stabilizing the sensitivity of this diagnostic agent. This is an important step in its standardization. This test is widely used in the present brucellosis eradication program.

Studies of bloat in cattle and sheep continued.—Bloat continues to cause serious losses to grazing and feedlot cattle. Recent experiments on bloat have thrown additional light on concepts previously held in some quarters. It has been found that making alfalfa into silage does not prevent bloat; saponin is not the only cause of bloat; and large doses of methyl silicone will prevent bloat for only several hours.

Mature chickens indicated as another test animal for use in diagnosis of vesicular stomatitis and vesicular exanthema.—Mature chickens inoculated with these viruses reacted consistently to vesicular stomatitis but not to vesicular exanthema, indicating they could be used as test animals in the differential diagnosis of these diseases. Since chickens are readily available for the differential tests required for these diseases their use would be a valuable adjunct to present tests and assist in early diagnosis.

Toxicity of insect sprays and dips to livestock determined.—The minimum toxic dose and the maximum safe dose for livestock of 17 commonly used chemicals for control of insects of livestock and plants have been determined when applied to the skin as sprays or dips, and when fed. The symptoms and gross lesions seen in poisoning by these insecticides were ascertained. Abdominal surgery operations were performed to collect tissues for residue studies to help in establishing tolerances under Public Law 518, which amended the Federal Food, Drug, and Cosmetic Act.

Studies made in Georgia of losses from roundworms of cattle.—Affected animals harbored an average of more than 100,000 parasites per head, whereas nonaffected animals in the same general area had less than an average of 5,000 parasites per head. Morbidity and mortality losses in 13 herds studied were calculated to have caused monetary losses of $56 to nearly $3,200 per farm, the average loss per farm investigated being nearly $1,500. In this investigation 17 different kinds of roundworms, 2 of which have not been previously found in the South, were discovered. In the area under study losses from parasites have been a serious drain on cattle production in the last few years.

INCREASE FOR PARASITE RESEARCH

Dr. BYERLY. I would like to proceed to a third increase item of $308,000 to strengthen research on animal parasites. The January 1955 issue of Livestock Conservation News estimates parasite losses at about $906,800,000.

LIVER FLUKES

With respect to liver flukes, the general problem of losses in cattle and in sheep in many sections of the country exists not only in the humid sections and in the irrigated sections, but in the dry sections, too, where in the wintertime the animals are brought together to a feeding ground. Where moist conditions prevail, flukes are likely to be and often are a very serious cause of loss. One particular problem is the lancet fluke, a fluke discovered in New York State, which is limited to that State at this time. We know with respect to the lancet fluke that the snail, which is one of the intermediate hosts, and the ant, which is a second intermediate host for this particular fluke, are widely spread; so, unless we find means through research of controlling the lancet fluke while it occupies only a small area, we may anticipate within a few years it will contaminate our entire sheep industry.

CATTLE SCABIES

With respect to scabies or mange in cattle, there are four kinds. The common psoroptic mange has given us trouble in the Western States recently and has necessitated inspection and expensive control measures there. One interesting thing—I believe I am correct, Dr. Johnson—is that the common wild rabbit or the jackrabbit has been discovered to be a carrier of psoroptic mange.

Dr. JOHNSON. The jackrabbit.

Dr. BYERLY. The other kinds are sarcoptic, chorioptic, and demodectic. These three types of mange are scattered through the farm States. Demodectic mange is a particular problem because the people who buy hides and dress them and make them into leather are particularly insistent that research be undertaken on demodectic mange.

In the live animal this isn't a serious proposition from the standpoint of appearance. Many owners wouldn't even know that the animal had this kind of manage. However, when they go to tan the hide for leather, there is a useless spot in it. This accounts for the loss in quality of a great many hides.

EXOTIC PARASITES AND PARASITIC DISEASES

With respect to the exotic parasites and parasitic diseases, only a few are listed here. The list could be very long indeed. There are many parasites which we do not have. Some of those listed are trypanosomiasis, piroplasmosis, theileriosis, and east coast fever.

Trypanosomiasis is an African disease spread by the tsetse fly. Piroplasmosis is tick fever which we no longer have but which could come back.

Theileriosis is another tickborne blood corpuscle disease and east coast fever is still another blood parasite disease; all these last three are carried by ticks. We have ticks in this country which could transmit them very readily once the infection reached us.

We would like to do work on these exotic parasites and parasitic diseases in other countries rather than do it here. We would like not to be faced with the obligation of doing it here, knowing that the disease is among us.

INDEX CATALOG

The fourth item in the increase has to do with the publication and maintenance of bibliographic material relative to parasites and parasitic disease of livestock. This index catalog includes not only the parasitic disease of livestock, but of man as well, and all of the nematodes that affect plants because these are zoologically similar to the ones parasitic on livestock. This catalog was initiated in 1892. It is with one possible exception, the only world source, or compendium of the literature.

I would like to explain to you how important in a research program one complete compendium of the known literature on a subject is. With respect to a research project, I would estimate that 25 percent of the research project leader's time is devoted to search of the literature. So long as we maintain this compendium complete, as it is, it would save us about that many man-hours of a research project leader's time for devotion to direct, new, experimental work.

CONSTRUCTION AT MILES CITY, MONT.

There are two increase items for buildings described on pages 28 and 29: One is for $145,000 for buildings at the United States Range Livestock Experiment Station at Miles City, Mont. This station is devoted to basic breeding, feeding, and management studies with range cattle, and has been the source of many important research results being applied by the industry today.

I don't think I need to add to what is presented here in the text except to emphasize it. There is need for a sewage disposal plant on this station, which is normally occupied by approximately 50 people. The station dumps raw sewage about a mile above the city of Miles City, Mont., a city of 10,000 people. And gentlemen, this should not be allowed to continue. With respect to the residences requested——

Mr. MARSHALL. Have the city authorities objected?

Dr. BYERLY. They are very tolerant. They have talked to us about it but have not raised a formal objection. Obviously they might at any time. They have been very tolerant with us, and we have told them we will do the best we can.

Mr. MARSHALL. What is your request for this item?

Dr. BYERLY. For the sewage-disposal plant, $100,000. The total increase for the station is $145,000: $25,000 of that amount is for a cattle feeding shed, and $20,000 for a residence for the superintendent to replace one built about 1870.

Mr. HORAN. I think you are required to do that by Federal law, The Anti-Pollution Act.

Dr. BYERLY. Are there other comments with respect to the Miles City item?

CONSTRUCTION AT DUBOIS, IDAHO

I will go on to the increase for Dubois, Idaho, for $250,000 to provide headquarters laboratory buildings, including lambing and feeding quarters. The present office and laboratory building is a one-and-a-half story frame structure which should be replaced by one of more permanent nature, to provide permanent quarters for this, which I

feel, from the standpoint of sheep genetics research, is the most important sheep-breeding station in the world.

It is a minimum protection to the irreplaceable records and to the workers at this very isolated station. This station is out in the middle of the sagebrush, 8 miles from the village. It is practically defenseless against wildfire except for the personal efforts of the staff who live there, and I feel this item should be given very strong consideration.

With respect to the lambing shed, at the present time, one band is lambed in the sheds that exist, the other is lambed in tents or on the range. That means one band has to be lambed a month later than the first band, partly because of the inadequate facilities. There is considerable difficulty in accumulating over a period of 4 weeks' time approximately 2,000 lambs, 1 at a time, taking them back to shelter, getting their weights and their marks, in the cool April weather which is characteristic of the country. It would facilitate the work very substantially if we had another sheepshed. With respect to the sheep-feeding shed, it would provide quarters for an expansion of our performance testing work with sheep and other nutritional trials.

At the present time, it has been possible to carry most of our breeding work only to the weaning lamb stage. More than half of the lambs are only feeder lambs when they finish, so we have no complete data on their quality, except for very small samples in the performance test. We wish to carry these on in feeding trials, adequate and proportionate, to the importance of the project.

Mr. MARSHALL. When these facilities were built about how long ago was that?

Dr. BYERLY. The last were built about 20 years ago and the others are much older.

The sheepshed is approximately 30 years old. That can be checked, but I think that is correct.

I think that was back about 1926. That is dry country, and the state of preservation is good. The station is well kept and tidy.

Mr. MARSHALL. Their need there, as I understand it, is more of a matter of convenience to carry on your proper experimental work, than the matter of the facilities——

Dr. BYERLY. It will be a substantial saving in labor, too. The difference between shed lambing out of the wind. Only a small number of men can work in individual pens. The wagon has to go out and pick up the lamb and have it brought back to the tent. It would save substantially in lambs, it would improve the records, and the comfort and convenience too, of course.

It would give us better records and more flexibility.

Mr. MARSHALL. Do you contemplate wrecking the old structure, and replacing it with a different one?

Dr. BYERLY. This decision I do not believe has been reached although I would say "Yes."

Mr. MARSHALL. If by any chance that information you have is correct, you will inform the committee.

Dr. BYERLY. As to the destruction and wrecking of the present building?

Mr. MARSHALL. Yes.

Mr. BYERLY. I will verify that for the record.

(The information requested is as follows:)

The present headquarters building at the United States Sheep Experiment Station, Dubois, Idaho, would not be razed upon construction of the headquarters laboratory building proposed in the budget. It would continue to house the offices of the director of the station, the administrative office, and the project leaders. The proposed new fireproof building would house the laboratories, including valuable research records, and contain such limited office space as would be required by the technical staff engaged in laboratory work.

The present headquarters building is of frame construction, 38 by 64 feet, and is one story and a half with basement. The half-story second floor would be used periodically for dormitory space for visiting scientists and sheep producers. Similar local facilities within a 10-mile radius are limited to about 25 persons. This number is often exceeded by visiting groups properly concerned with the research program underway at the laboratory.

SAVINGS FROM USE OF MODERN ELECTRONIC EQUIPMENT

Mr. MARSHALL. When you were discussing the dairy herd improvement work you mentioned that additional funds were needed to modernize the equipment. Would you anticipate in following years some savings could be made?

Dr. BYERLY. This will only enable us to do more work, Mr. Marshall, not to save money.

SHIPPING FEVER

Mr. MARSHALL. You have been doing some work, I know, on shipping fever in cattle. Are you making any headway in that? I believe that is one of the most disastrous diseases we have.

Dr. BYERLY. Shipping fever is, as you have stated, one of the most expensive of livestock diseases. Frankly, unless there is some fortunate investigator who comes upon a good idea and is able to develop it we have little hope of solving this problem until after the completion and occupancy of the new animal disease laboratory at Ames.

Unfortunately, this is not a disease that our present facilities enable us to investigate directly, although we recognize, as you have stated, that it is among the most important problems in the animal disease field.

Dr. JOHNSON. We feel very pleased with the acquisition of funds for the building of the station at Ames, Iowa.

Mr. NATCHER. Doctor, I want to thank you for the fine statement you have made to this committee. I certainly agree that farm sheep raising is one of the most important of our livestock industries today, and has meant a great deal to my section of the country.

We appreciate the fine work that you are doing in your division. That is all, Mr. Chairman.

PUBLICATIONS ON ANIMAL DISEASES

Mr. HORAN. Have you put out any new work on vibriosis and those abortion diseases since the publication of Animal Diseases, in our yearbook.

Dr. JOHNSON. There have been some scientific publications by the cooperating State institutions.

Dr. BYERLY. We will be glad, if you wish, Mr. Horan, to supply you or the committee with that.

Mr. HORAN. I want to join with my colleague in congratulating you for a very fine presentation, Dr. Byerly.

NEED FOR RESEARCH ON ANIMAL DISEASES

Mr. MARSHALL. We might say we appreciate the fine work you and your staff are doing throughout the country.

We are paying almost twice as much for meat inspection as we are for the matter of controlling and taking care of the diseases. It doesn't seem to be just right in proportion.

Dr. SHAW. Mr. Marshall, could I say on this point that the only reason why we don't have more increases in here for research on animal diseases is that we have to wait until we get our new facilities built. We are not in shape to expand our program and we are just going to have to wait until we get those new facilities built, but when we do get them built, then we think we are going to be in a much better position than we have ever been in this country to go ahead and really do something about slowing down these animal diseases.

Mr. MARSHALL. We appreciate knowing that.

The committee stands adjourned until 1 o'clock tomorrow.

JANUARY 31, 1957.

HOME ECONOMICS RESEARCH

Mr. WHITTEN. The committee will come to order. We have with us this afternoon Dr. Stiebeling, who heads the Division of Home Economics Research. Dr. Stiebeling, we are glad to have you. We would like to have you review with us the highlights of your operation during the past year and give us some detailed discussion of the increases for the coming year of $339,300 in total. We will be glad to have you present it as you wish.

Dr. STIEBELING. Thank you, Mr. Chairman. The increase of $339,300 includes $86,300 for retirement costs under Public Law 854 and $253,000 for program increases.

Home economics is a vital part of agricultural research, inasmuch as it is concerned with determining the needs of people for adequate food, housing, and clothing, the contributions that agricultural products can make to supply those needs, and specific problems that are concerned with better living for farm people.

On pages 104 to 107 of the explanatory notes there are some examples of recent progress. I shall not go over those in detail, but perhaps the committee will insert them in the record at this point.

(The material referred to follows:)

HOME ECONOMICS RESEARCH

Current activities.—Investigations are conducted on human nutritional requirements, the composition and nutritive value of foods, and problems relating to the household preparation and preservation of foods. Studies are made of problems in the household utilization of textiles, clothing, and equipment, and of family requirements for housing and related facilities. Investigations are made also of food consumption practices and the nutritive value and economy of customary diets, patterns of rural family expenditures and production for household use, and economic problems of household management.

Selected Examples of Recent Progress

1. *Human requirements for amino acids studied.*—Pioneering research on requirements for the protein building blocks (amino acids) has provided the first data indicating the quantitative requirements of young women for 8 of the "essential" amino acids. The amino acids studied were: isoleucine, leucine, lysine, methionine, phenylalanine, threonine, trytophane, and valine. The values were derived from studies of biochemical metabolism in more than 50 women, for periods of 3 to 6 weeks each. The results are already being used in nutrition research and education in this country and made a significant contribution to an FAO expert committee report on protein needs and methods for their fulfillment for population groups throughout the world.

2. *Fatty acid requirements of children studied.*—Better understanding of requirements for unsaturated fatty acids and of the role of fats in human nutrition is emerging from a series of studies with children. Linoleic acid, the "essential" fatty acid most widely distributed in foods, appears to aid in the metabolism of fats. The linoleic acid content of blood serum was found to be higher in well-nourished infants than in children with poor fat absorption, and higher in infants receiving human milk rather than cow's milk. Human milk was found to be higher in linoleic acid than cow's milk and the difference in diet was reflected in lowered blood levels in a relatively short time after infants were shifted from human to cow's milk formula.

3. *New guide to good nutrition issued.*—A bulletin titled "Essentials of an Adequate Diet" was prepared to meet the many requests from nutritionists, extension workers, and others engaged in nutrition education for up to date and authoritative material to use in nutrition programs. The most recent research on human nutritional needs, nutritive values of foods, and food consumption habits provides the basis of the recommendations. For example, the nutrients most likely to be short in diets in this country were considered, together with the foods that are good sources of these nutrients, in developing the base plan for an adequate diet. Because different kinds of foods can provide the essential nutrients and because food supplies in this country are ample to provide for considerable freedom of choice, the bulletin presents a "point" system to show how common foods rate as sources of key nutrients. Using this system, foods within the basic groups can be interchanged to allow for differences in availability of foods, food budgets, food preferences, and so forth, with the assurance that a good diet can still be obtained.

4. *Table for estimating food yields completed.*—Information has been brought together from many laboratories on the yield of ready-to-eat foods that can be expected from meat, fruits, vegetables, and other foods purchased on the market. The publication, Food Yields—Summarized by Different Stages of Preparation, gives dietitians and food managers an up-to-date guide for planning food purchases for school lunchrooms, hotels, restaurants, the Armed Forces, hospitals, and other institutions. The data take account of present day practices in processing and marketing food and new developments in breeding plants and livestock that affect yield, not reflected in earlier less comprehensive summaries of yield data.

5. *Publication on bread included in Facts for Consumer Education series.*—The publication on bread, which was completed this year, was especially well received. The declining consumption of grain products in this country shows that many people have not realized the many-sided contribution that grain products make to a nutritionally adequate diet. For example, 5 slices of bread provide over 15 percent of the recommended dietary allowances for protein, thiamine, iron, and niacin, and about a tenth of the calcium, riboflavin, and food energy needs of a 25-year-old man. The bulletin also shows the economy of bread. City families reporting in a recent survey spent only 4 percent of their food budget for bread and for this sum received 9 to 14 percent of their total supply of 6 nutrients.

This publication series is designed to present basic research material on nutritive values and consumer buying and use of foods for consumer education and marketing programs. It has now covered the following foods: Beef, pork, tomatoes, peaches, milk and milk products, and bread. A bulletin on potatoes is in preparation.

6. *Data on fabric quality compiled.*—This compilation brings together results of investigations of properties and serviceability of 1,354 different household and clothing fabrics classified under 26 categories. The data, selected from studies made by the Department, by agricultural experiment stations, and by

colleges and universities engaged in textile research, furnish a basis for recommending acceptable qualities for certain fabrics and point out the gaps where further research is needed. In another bulletin facts on present-day fibers, fabric construction, and finishes were also brought together to help the average purchaser in judging a fabric for its general wearing qualities and its suitability for specific purposes.

7. *Bulletin prepared on washing fabrics.*—Good results in laundering depend in part on the correct use of detergents—both soap and synthetic detergents—in relation to the nature of the fabric being washed and the amount and kind of soil to be removed. A new Home and Garden bulletin has been prepared to provide information on types of detergents currently available for household use, and the results of research on their ability to remove soil from various kinds of fabrics under different conditions, and the effects of detergents on certain fabric properties. As part of research to improve home laundering methods, a laboratory technique was developed for measuring analytically the efficacy of various materials for whitening and maintaining whiteness in cotton fabrics.

Dr. STIEBELING. You will note from these progress reports that we have made significant advances in basic research concerned with human nutritional requirements. Items 1 and 2 deal with such work, that is, requirements for the amino acids and fatty acids for certain age groups. As Dr. Shaw mentioned earlier, we also have provided a new guide for nutrition teaching. This was prepared to meet the many requests that are coming to us from the Extension Service, teachers and writers, to put together authoritative material on human nutritional requirements, food values, and human consumption figures, that will provide new and up-to-date information for nutrition programs.

We have also continued to put into convenient and usable form for teachers and others widely scattered results of research that are related both to food and fabrics. Those are represented in the last several of the examples of progress that are given in the explanatory notes.

PUBLIC VISITS TO LABORATORIES

In the calender year 1956, about 4,000 people visited our laboratories here in Beltsville and Washington—the largest number for the last 10 years. Some of this increase was due to the fact that the American Home Economics Association held its annual convention here in June, and some 800 of those members came to our laboratories.

FARM HOME KITCHEN AND UTILITY ROOM

One of the major attractions for the visitors this year has been the display of a new farm home kitchen and utility room, which incorporates many features on space arrangements and dimensions that have come from the coordinated program of housing research that is being carried out by the experiment stations and by our own laboratories. We have tried to bring the results of this work to the attention of the public, not only homemakers but builders and architects in many ways, by photographs, by a film for TV use, and by tape recordings that can be used in many parts of the country, by many articles in magazines, both trade and women's magazines, that have national distribution. There has been a great deal of interest in this kitchen and workroom. A colored film strip is now being prepared for the use of teachers.

NATIONAL FOOD-CONSUMPTION STUDY

There is one other item that I would like to mention that I think would interest you. The first results are now coming from our nationwide study of food consumption. Last year we mentioned that such a study was underway jointly by home economists and the marketing specialists.

Of course, everyone knows that here in this country we have an abundant supply of a very large assortment of foods. This study of the food that comes into the kitchens of the Nation has shown us that at every income level the average quantity of food that is available will at least meet the National Research Council's dietary recommendations as far as the nutrients that we have studied are concerned. But although they meet these dietary goals on the average, there are still a good many families at every income level whose diets are not as good as we feel they should be. For example, about one family in three has food that furnishes less calcium than nutritionists would recommend; about 1 in 4 less vitamin C (ascorbic acid); and a smaller proportion some of the other nutrients. Now, this means that household food supplies tend to be short in nutrients that are supplied by milk and by fruits and vegetables.

But I would hasten to add that the situation today is very much better than it was 20 years ago, when we made our first national food-consumption study. At that time we concluded that one in three of the households of the country was very poorly fed. If we applied today the same standards that we used in 1936, I would put the figure at something like 1 in 10 being equally poorly fed. Thus over 20 years there has been great improvement. The greatest nutritional improvement that has taken place since 1936 has been in those nutrients, iron and certain vitamins, that are added to grain products in connection with the enrichment program. Furthermore, more of those same vitamins and more also of calcium and protein are now in diets because we are using more milk and more meat and poultry than we did 20 years ago.

We would be using even more milk and more fruits and vegetables if everyone in the country had food that would meet our present-day nutritional goals. We figure that it would take something like 9 percent more milk to bring the families who are now consuming less calcium than we would recommend up to that level. We figure that it would take at least 6 percent more of fruits and vegetables to bring the people who are now getting less vitamin C than we think is advantageous up to that level. So our studies show that there is room for increased consumption of some kinds of food from the standpoint of better nutrition.

ECONOMIC ANALYSIS OF FOOD CONSUMPTION

Another way of looking at the potential increases in food consumption in this country is by way of economic analysis. If you take the consumption of families whose incomes are less than $4,000 a year and see how their average consumption of food compares with that of the middle-income group (incomes between $4,000 and $5,000), you would find it would take from 15 to 20 percent more milk, more meat and

poultry, and more fruits and vegetables to bring the consumption of the low-consuming groups up to that of the middle group. The number of people in income classes under $4,000 is such that such change would add to total demand for those particular foods by 5 to 7 percent.

In 1948 we made a study similar to the one last year, but of urban families only. Our studies show that in 1955 the average expenditure of urban families for food was about $32 a week, whereas in 1948 it was $25.50. That difference can be divided into about four parts, just about equal parts. About a fourth of the increase was due to the higher food prices of 1955 as compared with 1948. About a fourth of the additional expenditure for food was due to the fact that families were larger in 1955 than they were in 1948. About a fourth of it was due to the fact that people were eating more meals away from home, more meals at school, more meals at work, more meals in restaurants. About a fourth of it was due to the fact that people were buying more expensive kinds of food to meet their nutritional requirements. For example, they were buying more meat and less bread and potatoes, which of course are less expensive.

However, since 1948, excepting in the nutrients that are provided by meat, chiefly certain of the vitamins and protein, there has been very little change in the nutrient value of the diets of urban families. The situation is quite the same as it was 7 years ago. We find that some families even in the higher income groups are failing to select the kinds of foods that would make for improved nutrition.

Now, improved nutrition is due to a combination of things. It is due to having plentiful food supplies to start with. It is due to having purchasing power increases, particularly among those families at the lower end of the income distribution, and an awareness or a knowledge on the part of families of what food is required for good nutrition. We need continued emphasis on nutrition education, and we need a research basis for that nutrition education.

ROLE OF FAT IN HUMAN NUTRITION

One of the most perplexing problems relating to nutrition education just now is the whole question of the role of fat in nutrition. I am sure that all of you have been reading in the daily papers and in magazines the many articles that are appearing these days on this question. The studies made by public health and medical people are appearing to relate the incidence of coronary diseases, at least the level of cholesterol in the blood, to the kind and quantity of fat in the diet. I think there is no question but that not only diet but also our way of life is important in these matters. The stress and strain of modern living, coupled with our sedentary occupations, undoubtedly are factors.

Certainly the Department of Agriculture needs to put itself in the position of being able to answer how much of different kinds of food products are needed for good nutrition, to show how products may be improved by processing for good nutrition, and how consumers can choose from our food supply in a way to safeguard health. It is to help supply research based knowledge for such answers that we are requesting this increase of $200,000 for research on the role of fat in nutrition. That is the first of the two program increases which are on pages 35–37.

INCREASED EMPLOYMENT IN 1958 BUDGET

Mr. WHITTEN. How many additional people do you contemplate employing in your department?

Dr. STIEBELING. Twenty-six or twenty-seven on the work of research on fats in nutrition. The research we are contemplating is planned to determine the upper and the lower limits of different kinds of fats needed in diets under different nutritional situations. Now, it is not a question of fat or no fat. We know that some fat is very important to nutrition. It is a question of what is the range in kind and quantity of fat that is desirable and advantageous, and how that range is affected by the rest of the diet. We need to know, for example, whether we need some different proportion in the kinds of fats that we now are using, or whether in certain circumstances there should be less of some kind or more of other kinds, and how the rest of the diet will affect how much of these different fats can be used advantageously.

We plan that this research would be closely coordinated with that of other agencies, both within the Department and outside. Indeed, the various agencies of the Department that are concerned with the whole question of composition and nutrient value of fats and of determining nutritional requirements have been working together to develop a very closely coordinated program of research with funds now available and funds that may become available in the next year. Research on the place of fats in nutrition has been given top priority by at least four of the Department's research advisory committees. Everyone agrees that there needs to be close coordination by all the scientists who are working on different facets of this problem, so as to get ahead with the answers, at the earliest possible moment.

DISSEMINATION OF RESEARCH FINDINGS

Mr. WHITTEN. Dr. Stiebeling, from time to time comments are made concerning pamphlets gotten out by the Department of Agriculture. I heard 1 or 2 of your bulletins questioned by the Budget Director and Secretary of the Treasury the other day. President Eisenhower criticized some of them when he first ran in 1952.

We know in this committee that you handle the basic research for the home demonstration agents primarily, and others. They are the educational group. To how many home demonstration agents do you supply the results of your research, approximately?

Dr. STIEBELING. There are about 3,000 at the county level.

Mr. WHITTEN. In addition, to what other groups do you supply your findings? Are you the main source of basic research used by home demonstration agents and similar people throughout the country?

Dr. STIEBELING. There are about, as I said, 3,000 local home demonstration agents. In addition, there are all the teachers of home economics in high schools and colleges, and the leaders of not only the 4-H clubs but also the organization called the Future Homemakers of America.

Mr. WHITTEN. Could you give us any indication of the approximate size of that group?

Dr. STIEBELING. I would be glad to put it in the record, sir. In addition, I would like to mention one other group that depends heavily

upon our material—the editors and writers for women's magazines and newspapers and the radio.

(The following information was supplied later:)

SOME PROFESSIONAL GROUPS THROUGH WHICH HOME ECONOMICS RESEARCH FINDINGS ARE DISSEMINATED

EXTENSION SERVICE

4,800 State specialists, supervisors, and county agents in home economics programs reached 6,135,000 families (rural and urban) in 1955. Over 4 million of these families sought help on problems relating to food and nutrition, about 3½ million on clothing, 2½ million on family economics, household management, household furnishings and equipment, and 1½ million on housing problems.

4,000 State and county leaders in 4–H programs, with an enrollment of over 2 million girls and boys in 1955.

SCHOOLS AND COLLEGES

2,500 home economics teachers in 450 colleges and universities with enrollments of 74,500 home economics students in 1956.

430 State and city supervisors of home economics education serving over 2 million girls and boys enrolled in homemaking classes in high schools and elementary schools.

57,000 schools and 11 million children participating in the national school lunch program.

9,460 chapters of Future Homemakers of America, with 427,400 members in 46 States, Hawaii, Puerto Rico, Virgin Islands, and Alaska.

NEWSPAPERS, MAGAZINES, RADIO, TELEVISION

2,300 editors of food and women's pages in newspapers; farm, women's and general magazines; and free-lance writers.

600 directors of women's radio and TV programs.

738 directors of farm radio and TV programs.

BUSINESS

400 home economists in business and industry.

Mr. WHITTEN. You have all these thousands of people who have full-time jobs the year round getting these materials into use, encouraging improvements in nutrition and all those things back at the local level. The value of the work of all those people is dependent upon the quality of the information that has been supplied them by your organization. Is that right?

USED OF PUBLICATIONS

Dr. STIEBELING. That is true. During the past year we have issued about a hundred publications based on our research and on materials from other sources brought together for the use of educators. Of that number, only about 15 were prepared directly for the use of homemakers, and those were bulletins, either new or revised ones, for which the Extension Service and others particularly pressed to use in their programs. Most of the others are for the use of other research workers or teachers and extension workers and leaders who work with families; source material, rather than materials for the general public. We have changed the emphasis of our publications in the last couple of years and now put more emphasis on source materials for teachers and leaders and less emphasis on materials for the general public and homemakers.

Mr. WHITTEN. I think the record in all fairness should show that you are the source of sound research that is used by thousands of people who put in full-time work all over the United States at the local level with the public and with members of clubs and things of that sort. In addition, you are the source of material for many magazines and press releases which in turn are relied upon by people throughout the country.

Dr. STIEBELING. That is true. From year to year 7 or 8 out of 10 of the most-called-for Department of Agriculture publications are those that come from the research in home economics. The publication on Family Fare is one of the most called for of all.

That is all that I planned to say about the increase requested for the role of fat in nutrition, unless there are questions you would like to ask.

RELATIONSHIP BETWEEN KINDS OF FAT AND CHOLESTEROL LEVELS

Mr. WHITTEN. In recent months one of the outstanding research specialists in heart disease in my home State, who is connected with the medical school in the University of Mississippi, spent a good deal of time with a young man who had the misfortune to have a severe heart attack back in October. He says they have not proved everything about heart disease, but they have definitely proved the tie between the body's accumulation of fats and the likelihood to heart attacks.

Dr. STIEBELING. There seems to be no question about the relationship between the kinds of fat and the levels of cholesterol in the blood. Some say that there is a definite connection between that and heart attacks and others are not so sure.

Mr. WHITTEN. I mention this only as one man's opinion, though he is one of those who have been working in that field for quite a number of years. Now, that does not mean that every other doctor agrees with him, as you can well realize.

Dr. STIEBELING. It is still a controversial question, but there is evidence enough that we need to pay attention to it and need to find out what the answers are and what is this desirable range of different fats in the diet.

Mr. WHITTEN. To what extent does the Public Health rely on your findings? Do you have joint research projects with that agency?

Dr. STIEBELING. We have joint research projects, and keep closely in touch with each other on the work that is being done. They are approaching it primarily from the standpoint, of course, of the relation of fat in different forms to disease and its treatment.

Mr. ANDERSEN. Dr. Stiebeling, I want you to know that, having observed the good work which your bureau has done in the past many years, I feel that that work is of incalculable value to the people of America. I say that from thinking of the work that my sister does in connection with dietetics in a hospital. She has often told me that the work coming from research in your particular bureau has been of great value to them up in that hospital, so it shows to me that there is definite proof that the research by you people reaches far beyond even the scope of what we are considering. It reaches all the human beings of America.

I was also impressed with your reference to the use made by our 3,000 home demonstration agents of the results of your research. I know of no more important work being done in any field than that of the home demonstration agents. That is true not only today but in all the years since the job was first established. That is why in my years in the Congress I have done all I could to help make more funds available for this important work.

In my own State of Minnesota, where I am personally quite familiar with the program, we have not only an outstanding program of home demonstration but we have some of the best trained and best qualified people in the country doing that work. I was reminded just the other day that I had once said that the only thing wrong with the home demonstration agents was that they made such excellent wives that smart young men were constantly marrying them and we were losing their services to farm families. Personally, I do not believe too much emphasis could be placed on your research which goes into the hands of the home demonstration agents. They not only need the results of your research but will make most effective use of such information for the good of homes and farm women all over the Nation.

Mr. WHITTEN. That is the point I was trying to get over. The 165 million Americans are the guinea pigs, so to speak, of dietitians in magazines and newspapers, home economics teachers, and home demonstration agents. They are taking this information to the public continuously, and the families are relying on what they learn from this source. Behind it all is the research work that your Department does. It therefore becomes highly important that the work continue. Otherwise we would be sending out misinformation.

Have you finished your highlights on the increases?

INCREASE FOR SERVICEABILITY AND MAINTENANCE

Dr. STEIBELING. On the nutritional one. I want to say of clothing a word or two about the increase of $53,000 for work on the serviceability and also maintenance of clothing of families, which is described on page 36.

We know very little about the serviceability and the factors that make for comfort in many of the new fabrics that are coming on the market, wool and cottons with new finishes as well as other types of fabrics. We know very little about the kind of construction that garments should have when they are made of these special fabrics, and about best methods of their care.

This is a subject on which the Extension Service and other home economists are urging us to get more research-based, unbiased information that they can use to help consumers in their educational programs. We feel that if we had better procedures and methods for predicting the performance that consumers could expect from these new fabrics that manufacturers might be encouraged to do better labeling of their products, which in turn would help the consumer to understand what they buy and know how to take care of it.

This work, too, would be conducted cooperatively between the home economists and other parts of the Department of Agriculture and would be coordinated with the regional research on clothing and fabric

performance that is being done in at least three regional groups of experiment stations.

Mr. WHITTEN. Mr. Natcher.

INCREASED EMPLOYMENT IN 1958

Mr. NATCHER. Doctor, of the 26 new employees that you mentioned, will any of these new employees be assigned to this particular type of work that you have just mentioned.

Dr. STIEBELING. There will be about 8 new employees on fabric research. These will be in addition to the 26 or 27 assigned to the study of fats in nutrition.

Mr. NATCHER. The 26?

Dr. STIEBELING. Yes, both here and in the States, because in work of these types we cooperate closely with specially qualified universities and schools.

Mr. NATCHER. How many of the 26 will be assigned to the States?

Dr. STIEBELING. The only figure that we have definitely indicated in our notes is in Galveston, Tex., where we already have some preliminary work of this sort underway. The others at the moment would be assigned to Beltsville. However, we undoubtedly will put some of them into other States, too, where we can develop cooperative or contract work. We like to work on studies with human subjects on campuses of universities, where problems of housing of subjects are simpler, and the cooperation of medical groups can be gotten very readily.

Mr. NATCHER. That is all, Mr. Chairman.

Mr. WHITTEN. Mr. Horan.

Mr. HORAN. Dr. Stiebeling, I was rather astounded last fall when I was asked to address the State meeting of the Future Home Makers of America. I want to commend you and all those who are encouraging that work. Frankly, I was a little bit at a loss as to how to approach that, and finally I hit upon something that astounded me. To begin with, I went out to the log cabin where I was born and pulled a square nail out of the ceiling of the log cabin, which was built about 4 years before I was born in 1898. Then I began to think of all of the industrial and social revolution that had taken place during my lifetime, and it is quite astounding when you think back to 1898 and how we kept house and how we cooked and the things we have done in various fields during my lifetime. If you just think about it, the world has almost completely changed. Probably we have had more mechanical progress in my lifetime than all the rest of recorded history of civilization. I enjoyed it, and your department helped me with material which I turned over to our Future Home Makers out there, and they appreciated it.

Dr. STIEBELING. I recall writing a letter.

Mr. HORAN. I was very much impressed with the whole theme of the purpose they were building into the lives of those girls. I think it is not only helpful to them to build a home and be a better wife and mother, but it is a stabilizing influence. But I have to go back right now to my old theme that if we were to be bombed here and shut off the electricity we would practically starve to death.

Dr. STIEBELING. It would be very inconvenient, wouldn't it?

Mr. HORAN. It certainly would. That brings me to the thing that I want to get at, in which I think we need some research. I still insist that we ought to have some bulletins on mechanics in the kitchen. We bought a clothes dryer, and it was 3 years before we found out where to put a new fuse in it. I even put a bill in Congress once requiring manufacturers to put out a manual to teach people how to repair their equipment. I only did it once because my staff would not let me put it in. We got too much mail, but something along that line would be very helpful. I see nothing in your work here that indicates that you are helping the housewife to get along with all these fancy things she has in her kitchen and in the house.

Dr. STIEBELING. During the war, you may recall, we had a series of leaflets on Take Care of Your Equipment, on different articles of equipment, in which the matter of repair that can safely be done by the man or woman in the home was discussed. However, I think that those are now out of print.

Mr. HORAN. I feel, Mr. Chairman, that something along that line should be considered very seriously by the research department, and if possible have a practical manual. I am not talking against the repairman, but we did have a washer once that was a lemon, and once every week the repairman came out to fix the washer. We bought another one that is working very well. I think the housewife is entitled to know a little more about these things that she uses in her own home. That is all, Mr. Chairman.

Dr. STIEBELING. We will consider that, sir.

Mr. MARSHALL. I am sure my good friend and colleague realizes that this sort of a thing is one of the things that unless it is properly handled can get somebody in a bit of a difficulty with the general public. I think that it would be a good thing at this point to point out that it is something that should be carefully handled before proceeding too rapidly on that line.

EFFECT OF PROCESSING ON FRUITS AND VEGETABLES

Mr. VURSELL. I have one question to ask if you have finished. You spoke of the lack of consumption of foods such as milk in diets generally. I wonder if you recommend canned fruits as a diet almost equally to other fruits, because most of it now is bought in cans. What about the canned fruits? Is that in your recommendations?

Dr. STIEBELING. Canned fruits tend to be a little lower than fresh in certain of the vitamins that are destroyed by heat. However, tomatoes, for example, or citrus juices, have enough acid so that the destruction due to heat is much less than you might expect. Both canned and frozen foods have very high nutritive value if they are of good quality, even though not quite as high as good quality fresh fruit and vegetables. On the other hand, if fresh fruits and vegeables are not properly handled in the market place and have been shipped long distances under not-too-good conditions they lose some of their value. The best way to eat fruits and vegetables, of course, is to get them in prime condition right from the garden or right from the tree. Then they have better flavor and more nutritive value than any

of the processed food, but that, of course, is an impossible situation for a population with 85 percent of its people living in cities.

Mr. WHITTEN. Dr. Stiebeling, we are always glad to have your presentation, and we value your work. We have to spend our time trying to be sure that you move from one research project to another rather than always providing more money to do a new job. We do value your work and recognize fully that we have to keep abreast of the times, with many, many people throughout the United States spending full time making other people aware of the information that you send to them in the first instance. So I think you can count on the support of this committee in the years to come.

Dr. STIEBELING. Thank you so much.

UTILIZATION RESEARCH

Mr. WHITTEN. Dr. Hilbert, we now turn to your phase of the research work in the Department of Agriculture. I notice you have a substantial increase of approximately $1,950,900 in the budget. We would be glad to have you call to the attention of the committee the highlights of your work during the past year. We would also like for you to give some details in support of this increase.

PATENTS ISSUED DURING 1956

Dr. HILBERT. I will be very glad to do that, Mr. Chairman.

During the past year, 77 patents have been granted to research workers in the field of utilization research. This list contains the titles of the patents, as well as the patent numbers and the dates when they were granted.

(The list referred to above is as follows:)

Patents issued to utilization research branches, calendar year 1956

Patent	Patent No.	Date of issue
Method of recoverying volatile flavoring oils	2,729,564	Jan. 3, 1956
Process for preparing dehydrated potatoes	2,729,566	Do.
Dehydration of potatoes	2,729,567	Do.
Production of fructose	2,729,587	Do.
Esters of 9,10-dihydroxystearic acid with ether alcohols	2,729,612	Do.
Acylated proteins	2,729,628	Do.
Polymerization process using boron fluoride	2,729,658	Do.
Lard oil and oleo oil	2,729,659	Do.
Meal recycling solvent extraction process	2,729,661	Do.
Method of inhibiting polymerization and product	2,729,671	Do.
Process of reacting cellulose textile with beta-propiolactone or beta-isovalerolactone	2,731,323	Jan. 17, 1956
Tanning with tetrakis-(hydroxymethyl) phosphonium chloride	2,732,278	Jan. 24, 1956
Method of continuously blending streams of potato granules	2,732,307	Do.
Vulcanization of copolymers of methacrylonitrile and alkyl acrylate with a mixture of sulfur and triethylene tetramine	2,732,361	Do.
Method for spinning yarn from staple fiber	2,732,682	Jan. 31, 1956
Stick remover	2,732,939	Do.
Agricultural residue abrasives	2,733,138	Do.
Centrifugal extractor	2,734,635	Feb. 14, 1956
Plant regulators	2,734,816	Do.
Marking compositions	2,735,780	Feb. 21, 1956
Peroxides of saturated cyclic terpenes and method of producing same	2,735,870	Do.
Method of inhibiting the browning of plant tissue	2,738,280	Mar. 13, 1956
Controlled enzymolysis of high-amylopectin starch	2,738,305	Do.
Allyl starch emulsion and a process of preparing it	2,740,724	Apr. 3, 1956
Method for the recovery of sweet corn polysaccharides	2,740,733	Do.
Lactam of N(β-aminoethyl) chelidamic acid	2,740,786	Do.
Extraction and recovery of alkaloids	2,740,787	Do.
Producing colored cellulosic textiles	2,741,532	Apr. 10, 1956
Enzymatic preparation of high levulose food additives	2,742,365	Apr. 17, 1956
Production of dextranase	2,742,399	Do.

Patents issued to utilization research branches, calendar year 1956—Continued

Patent	Patent No.	Date of issue
Card clothing stripper	2,742,673	Apr. 24, 1956
Production of potato granules	2,742,847	Do.
Fibrous 2-phosphatoethyl ethers of cellulose and process of making the same	2,743,232	Do.
Production of tetrakis (hydroxymethyl) phosphonium chloride	2,743,299	Do.
Automatic test-tube washer	2,743,733	May 1, 1956
Process of separating proteins and vitamins from starch waste water	2,744,014	Do.
Pitch separation and sugar recovery from bagasse	2,744,037	Do.
Processes for increasing the yield of enzymes	2,744,050	Do.
Alkyl iodide catalyzed tung oil isomerization	2,744,123	Do.
Isolation of fatty acids from guayule resin	2,744,125	Do.
Fiber deflector	2,745,144	May 15, 1956
Continuous belt trough drier	2,745,194	Do.
Glyceridic mixtures exhibiting unique properties and process for their production	2,745,749	Do.
Detoxified cottonseed oil foots	2,746,864	May 22, 1956
Process for making unicellular dehydrated potato granules	2,750,295	June 12, 1956
Phenylaminoalkylated cellulosic textiles and process of chemically modifying them	2,750,249	Do.
Peroxides of long-chain olefinic compounds	2,750,362	Do.
Preparation of phytic acid from calcium magnesium phytates	2,750,400	Do.
Converting alpha-pinene to mixtures of acids	2,750,411	Do.
Dewatering of pulp	2,750,855	June 19, 1956
Process for the chemical modification of cotton sliver with sodium hydroxide solution	2,751,278	Do.
Preparation of concentrated purees	2,752,253	June 26, 1956
Treatment of extraction liquors from poppy straw	2,752,350	Do.
Liquid acrylic ester telomers with iso-propylated benzene and process for their production	2,752,387	Do.
Apparatus for determining textile characteristics	2,752,781	July 3, 1956
Process of reacting aminoalkylated cellulosic textiles with 8-hydroxyquinoline sulfonic acids and metals forming chelate rings and products thereof	2,753,240	Do.
Process for the microbiological synthesis of vitamin B_{12} active substances	2,753,289	Do.
Edible spreads from vegetable oils	2,754,213	July 10, 1956
Inactivation of enzymes in beet cossettes prior to diffusion	2,754,233	Do.
Partially-acetylated polyvinyl alcohol as a soil-suspending agent	2,755,252	July 17, 1956
Purification of long-chain vinyl esters and ethers	2,756,222	July 24, 1956
Drum drying of cooked mashed potatoes	2,750,832	Aug. 21, 1956
Addition or organic acids to the double bond of unsaturated fatty compounds	2,759,953	Do.
Rice wax extraction	2,759,956	Do.
Maple-honey spread and process of making the same	2,760,870	Aug. 28, 1956
Inorganic iodide catalyzed tung oil isomerization	2,760,968	Do.
Nutritive yeast products	2,764,487	Sept. 25, 1956
Process for the preparation of concentrates of vitamin B_{12} active substances	2,764,521	Do.
Production of sym-homopinic acid	2,765,334	Oct. 2, 1956
Phosphorus-containing polypeptides	2,768,997	Oct. 30, 1956
Selective enrichment medium for salmonella	2,770,574	Nov. 13, 1956
Electrolytic production of alkali salts of iodic acid	2,770,589	Do.
Antibiotic and method for producing it by bacillus polymyxa	2,771,397	Nov. 20, 1956
Ammonia insolubilized methylol-phosphorus polymers and cellulosic materials impregnated therewith	2,772,188	Nov. 27, 1956
Vulcanization of acrylic acid copolymers	2,772,251	Do.
Coating composition stabilized with a cyanoethylated protein	2,775,565	Dec. 25, 1956
Polymerizations initiated by saturated cyclic terpene peroxides	2,775,578	Do.

Dr. HILBERT. The developments I am calling your attention to are those that we believe will make a most important contribution either on the surplus problem or on the agricultural commodity in which the work has been done.

CEREALS UTILIZATION

The first development I would like to discuss is our most outstanding contribution in the field of cereals. I believe Dr. Shaw referred to this briefly a few days ago. This contribution concerns the development of an entirely new product made out of starch, called starch dialdehyde. It is made by a low-cost process involving the use of an electrolytic current. This product can be produced with widely different properties, properties varying from those quite similar to starch to a product that dissolves very readily in water and is highly reactive. It has a wide variety of potential uses, such as a raw material for making plastics, for the paper industry, and as an adhesive. Most of our work from the use standpoint has been done at the

Eastern Regional Research Laboratory, which has studied it for use in tanning hides and skins. They find that when starch dialdehyde is used the hide can be tanned in 24 to 48 hours. It usually takes from 6 weeks to 2 months to tan a hide, and that is one of the reasons for the high cost production of leather. I have here samples of leather tanned with starch dialdehyde. These three different samples all have been tanned with starch dialdehyde. In two cases an additional tanning material has been added. You will note that the leather is very light tan colored and also very flexible. We believe it has a great deal of promise.

In order to push this work along, we have made a shift in our program and at the present time have a team of 12 chemists and chemical engineers pushing this development through as fast as we can.

COTTON UTILIZATION

Another development to which I would like to call your attention concerns cotton. The most important contribution we have made in the field of cotton this year has been development of a wash-wear fabric with permanent creases. I would like to give you a bit of background information so you can get a picture of its significance. When the noncellulose synthetic fibers were developed, they had the outstanding property of being wrinkle resistant and crush resistant. They could be dried very rapidly too. This property of drying rapidly has become known as wash and wear. "Wash and wear" have become practically household words. Cotton wrinkles very easily and dries very slowly. The cotton industry, however, has been meeting the competition of the synthetic fiber industry by treating cotton with chemical resins. These chemical resins confer wrinkle resistance and crush resistance to cotton. About 3 years ago dacron and orlon made their appearance. They had one additional property, a new property—one could produce a fabric having a permanent crease in it.

The chemical industry exploited this property highly. This type of property is desirable for men's suits and women's dresses with pleats in them, sport shirts, and so on. During the past year we have developed a process for producing a wash and wear fabric from cotton which also has a permanent crease in it. This is done by immersing goods, for instance shirts or cotton trousers, in an emulsion. This bottle contains emulsion we have been using. On treating the cotton goods with this emulsion and damp drying it, and subsequently subjecting it to a hot iron, one can get the permanent crease in it. This resin can be retained at least through 12 launderings, which indicates that it is quite permanent. It has one advantage over synthetic fibers. This type of fabric can be dried in an ordinary washing machine by using the spinning method housewives now use. That can be done with this kind of fabric without developing any wrinkles. On the other hand, synthetic fibers have to be hung dried, that is, hung up so that the water drips out of them.

We still have two disadvantages to overcome. In subjecting this type of fabric to a hot iron, formaldehyde is given off, and one needs to work in a well-ventilated room. The other disadvantage is that if this type of treated shirt is washed with a dirty white shirt then the resin-treated shirt acts as a scavenger. It picks up all the dirt in the

white shirts. It has to be washed separately. Those are two problems we are working on at the present time. We do not think they are insurmountable. We are working with the National Dry Cleaning Institute from the standpoint of developing its commercial application. This type of product can be produced not only in the household but in dry cleaning laundries and for that matter in a factory.

Mr. HORAN. What is the quality that makes it collect the dirt from the white shirts?

Dr. HILBERT. It is one of the components in the resin. Industry has developed hundreds of different resins which can be tested. We have studied a combination of three of them, and we are still studying other formulations. We are quite sure that we can find a formulation that is responsible for this undesirable property. We think it is the silicone that is present in the emulsion.

WOOL UTILIZATION

In the field of wool one disadvantage we have been working on for quite some time is the problem of developing shrinkage resistance. We have found within the past year that if wool is treated with an appropriate type of chemical resin the wool becomes shrink resistant. I have here three stockings. One is a control that has not been treated with the resin and has not been washed. Here is the other which has been treated with the resin and has been washed through 20 cycles. If you compare it with the control, you will note there has been practically no change in the size of the wool stocking. This one shows what happens to ordinary wool. It originally was the size of the control, and has shrunk to almost half its original size. This is a very important contribution. As a matter of fact, it is about the first case we know of where any wool product has been treated with a chemical resin. Although the cotton industry has been using chemical resins for the last 5 or 6 years, the woolen industry has not.

EFFECT OF TEMPERATURE CHANGES ON FROZEN FOODS

An important development in the field of fruits and vegetables is the completion of one phase of our activities dealing with the time-temperature tolerance of frozen fruits and vegetables. The frozen food industry has been developing very rapidly during the past 10 years. Too frequently the consumer in obtaining frozen fruits and vegetables has obtained products that had deteriorated, with off flavors. Sometimes the products were not even palatable. It is obvious that some place along the marketing chain of frozen foods the package has been mistreated. It is very difficult to determine just where this damage takes place, because no one along the chain takes the responsibility. Each link in the chain always claimed that the product had been handled properly and someone else along the chain must have abused it. The industry did not have any information as to the precise conditions to which frozen foods could be subjected and maintain optimum quality.

When the Research and Marketing Act of 1946 was passed and we received generous increases in appropriations for research and advisory committees were set up a number of the advisory committees urged the Department to make an intensive attack on this problem to deter-

mine the exact conditions for maintaining the frozen foods at high quality. We did undertake a vigorous attack on that program. It was necessary to design fluctuating temperature rooms, rooms in which the temperature would fluctuate at the same degree of variation as it undergoes through the marketing chain.

For example, the first step in the freezing process is done by the processor. The next step is when it goes to a warehouse; under those conditions it is kept at about 0°. The next step in the chain is the refrigerated truck or refrigerated freight car, and the temperature there increases up to 15° or 20°. It may be kept there for a week or 2 weeks, depending upon the duration of the haul. Then when the frozen food is received in the city to which it is destined, it goes back into a warehouse, again down to 0°, from there to the retailer, at the retailer's the temperature varies depending on the way the retailer handles it. It may be kept at 20°. At times it may reach 30°. The frozen foods that we have been studying have been subjected to similar wide variations in temperature. Since 1947 when this work started we have studied 50,000 different frozen food packages, 4 different fruits and three different vegetables. For example, in the case of strawberries we obtained strawberries in consumer-size packages from Oregon, Washington, Louisiana, and Tennessee, with the aim of being certain that variety was no factor and environment was no factor. To summarize, this is what we found, and the information we developed was surprising to the frozen-food industry. We found in the case of peaches that if consumer-size packages are kept at 25° for 2 days a change in color and change in flavor starts. This is 7° below freezing. If the package is maintained at 20°, the change is noted in 6 days, at 10° in 40 days, and at 0° not for 400 days.

The other important factor we discovered was that frozen foods have a memory. In other words, if they have been partially abused somewhere along the process, the frozen product remembers that, so the next time it is abused the 2 periods act as if it was almost 1 period, considering the length of time that the package was kept at these 2 different undesirable conditions.

DISSEMINATING RESULTS OF RESEARCH TO THE TRADE

We were faced with the problem of how can we get this information into the hands of industry so that they can take real advantage of it. This summer, we called a conference, to which we invited all the top representatives of all the different industries who are connected with frozen foods. For instance, we had representatives from the railroad industry, the refrigerator truck industry, from the warehousing associations, and various frozen-food trade organizations. We gave them a picture of the information we had developed over the years, and then sought their advice and counsel as to how we could disseminate this information as rapidly as possible into the trade. They all volunteered to help in this educational program. In additon to our publication of the results in technical journals thousands of reprints of the publications have been prepared, summarizing our results, and have been passed on to the trade.

DEHYDRATED POTATOES

Another important development in the field of fruits and vegetables is our work on dehydrated potatoes. Last year I called your attention to the fact that we have made signal progress in developing a product which was very palatable and had a long storage life. You will be interested to know that during the past year the industry has doubled its capacity for producing this type of potato granules. I also called your attention to potato flakes, that they had a great deal of promise.

Last May we conducted, in cooperation with the Maine Potato Commission and the Agricultural Marketing Service, a marketing study on consumer acceptance of potato flakes. The Maine Potato Commission turned over to us a carload of potatoes, which we processed in our pilot plant. The flakes were packed in this type of package and sold in stores in Binghamton, N. Y. We found that consumer acceptance was very high. More than 90 percent of the purchasers were repeat buyers. This study was carried on over a period of 6 weeks, and some made 6 purchases of the product. On the basis of that marketing study, 3 companies have started pilot-plant studies in producing potato flakes, 1 company in California, another in Maine, and 1 in Idaho. One company has started to produce potato flakes commercially.

One of the most rapid developments taking place in the food field is the production of instant potatoes. It is very desirable from the standpoint of the potato industry, because it does help to alleviate their seasonal surplus problem.

WHOLE MILK POWDER

In the case of milk, we have devoted a great deal of attention to the problem of developing a fresh flavored, convenient to use, whole fat milk powder. As you know, we have had a great deal of success in producing fruit and vegetable powders which are palatable, convenient to use, and have a long storage life. With the experience we have developed in our work with fruits and vegetables, we are confident we can do the same thing with whole fat milk powder. We have made a great deal of progress in the last year.

We find that we can get a whole fat milk powder which will easily reconstitute when mixed with cold water, and the product has the flavor of fresh milk. On storage studies, we find that there is no change in the ease of reconstitution. On the other hand, we have encountered one problem, a type of problem we always run into in attempting to form these powders, and that is the question of storage life.

This milk powder has a storage life of about 42 days in a refrigerator. We would like to do much better than that, and at the present time are devoting our attention to solving this storage problem. In view of the progress we have made, we are shifting our program and expect to have a team of 35 chemists and chemical engineers working on the solution of this problem.

We feel it is the most important contribution that can be made in solving the milk-surplus problem, particularly in the Middle West, where our large milk surpluses are and where at the present time their

distance from the markets forces them to convert their milk into butter and skim milk which can be dried, or evaporated milk, or cheese. This type of processing operation we feel will lead to the solution of the surplus problem.

I have here samples of this dried whole milk. You should bear in mind that it is an experimental product, but if you care to you can stir this up in cold water, to get a picture of how easy it does stir up, and then drink it. I think you will find it will be very palatable. It is a product you should use within the next few days or so.

UTILIZATION OF ANIMAL FATS

In the field of animal fats, we have made striking progress in the past year. As you know, the development of synthetic detergents has had a very serious effect on animal fats. The prices have dropped, and the industry has had difficulty in finding new outlets for animal fats. During the past year we found a method for converting animal fats into a synthetic detergent. In the past synthetic detergents have been produced entirely from coal-tar products or from petroleum products. The method that we have developed for producing synthetic detergents from animal fats has been translated to a pilot-plant scale by one of the large animal-fat manufacturers in the United States. They are interested not only in getting information on the cost of producing the product but also in producing large enough quantities of the product for market studies.

POULTRY UTILIZATION

I will mention one other development, and that is in the field of poultry. Several years ago when the broiler industry expanded very rapidly, many of the birds, chickens and turkeys, were frozen. There were, however, many consumer complaints on the toughness of these birds. The Western Regional Research Laboratory was urged by our Poultry Advisory Committee to determine why some of the frozen birds are tough. There were three factors of processing which might have been responsible. One was that the industry had adopted higher scalding temperatures to facilitate the rapidity with which feathers can be removed from the bird. Another factor was that the birds were not subjected to any holding time. As soon as the birds were feathered and eviscerated they were frozen. The third factor was that when the birds were received by the consumer the industry had been advising them that it was not necessary to thaw out the bird. It could be placed in the oven in the frozen condition and the difficulty of thawing avoided. Actually, we studied each one of these factors, and the first two, the higher scalding temperatures and the low holding time were found to be responsible primarily for the toughness of the birds. Thawing is also a factor but a rather minor one. We have made recommendations to the industry that the holding time of the bird be at least 12 hours, and that the scalding temperatures be held to a minimum. The industry has adopted those recommendations.

INCREASES PROPOSED FOR UTILIZATION RESEARCH

If you care to, I would be glad to discuss the changes in the budget in the field utilization research. I would like first to summarize for you the changes in the budget, and then I will discuss each one of these items separately.

For research on the utilization of wheat, small grains, and corn, there is an increase of $770,000. For research work on cotton and wool there is an increase of $870,000. For fruits and vegetables utilization research investigations there is a net decrease in the budget of $604,000. This is due to the elimination of a nonrecurring item of $785,000 for the construction of a new laboratory at Winter Haven, Fla., which is partially offset by an increase of $181,000. There is an increase of $260,000 for research on linseed oil and cottonseed oil and meal, and an increase of $104,000 on animal fats. The details of these increases are described beginning on page 37 of the explanatory notes.

CEREALS

The first increase I will discuss is that dealing with corn, wheat, and small grains, for which we are requesting an increase of $770,000. This increase would be used primarily for developing nonfood uses for wheat, corn, and small grains. A large portion of the fund would be used for expanding our investigations on starch dialdehyde, the new type of starch product I mentioned earlier. In particular, we would like to evaluate its use in the plastics industries and also as a raw material for the chemical industry. As I mentioned earlier, we have a team of 12 chemists and chemical engineers working on it, but in order to commercialize this development as rapidly as possible we feel that it is desirable that a large portion of this $770,000 increase be devoted to this field.

Mr. ANDERSEN. May I ask a question, please? What possibility do you see as to additional utilization of grains in the future because of this discovery? Have you made any estimate?

Dr. HILBERT. I think it has potentialities from the standpoint of large volume usage, and that is what we are pushing at the present time. I would say 100 million bushels.

Mr. ANDERSEN. That would be quite a contribution.

Dr. HILBERT. Yes, it would.

FERMENTATION OF GRAINS

The next area which would receive our attention under this increase for cereals concerns the fermentation of grains, from the standpoint of producing from grains a rich source of carotene or vitamin A, and improving the nutritional value of grains for feed purposes. I would like to elaborate on that point, to give you a picture of the problem the industry is facing. At the present time, 75 million tons of feed are used annually for swine and poultry. About 50 percent of this feed is in the form of cereal products. Cereal products, however, are deficient not only in the quantity of protein present but also in the quality of the protein. Cereal proteins are deficient in three very important amino acids. Those are the building blocks of protein, and those amino acids are just as essential for health as a vitamin.

In order to meet this deficiency, it has been customary to use oilseed meals. Oilseed meals have more of these important amino acids than cereals do. But in spite of the fact that cereals are supplemented with oilseed meals in feeds, there is still a deficiency of these three important amino acids. From estimates made from data assembled by the National Research Council the deficiency amounts to about 400,000 tons of these amino acids in our present commercial feeds.

The chemical industry is cognizant of this gap, and a number of chemical companies have been energetically attempting to produce synthetically two of these essential amino acids—lysine and methionine. As a matter of fact, they have been successful. At the present time lysine is being marketed in the bakery trade to enrich bread. We know that bacterial and other micro-organisms can provide rich sources of these three important amino acids. We have screened hundreds of bacteria yeasts and molds and found some that produce 4 to 5 times as much of this important amino acid as is present in a cereal protein.

A part of this increase would be devoted to carrying on pilot-plant operations on this fermentation process; and also to use new tools, either to add chemicals to the nutrient medium to increase the lysine content of the micro-organisms or to modify the bacteria by subjecting them to radioactive rays, X-rays, and sunlight.

SYNTHETIC RUBBER

One other fermentation activity on which we would initiate studies is the production of synthetic rubber from micro-organisms or from fungi. We know that rubber can be produced from fungi, but it has received practically no attention in the past.

During World War II large quantities of cereals were used for the production of synthetic rubber, but after the war, due to the increasing competition of the petroleum industry, very little alcohol has been used for conversion to synthetic rubber. The last alcohol was used about a year ago.

The process for producing synthetic rubber from cereals is a rather costly one. It has been a three-step process. The first step was the conversion of grain to alcohol, the next step alcohol to butadiene, and subsequently the butadiene to synthetic rubber. In the new proposed process we would go directly from cereals to rubber. It would be a natural rubber. The potential outlets for this in the rubber field are enormous. Quantities of cereals that might be absorbed amount to about a quarter of a billion bushels. This is one activity to which we would devote attention under this increase.

WHEAT GLUTEN

Still another one deals with the development of industrial uses and food uses for wheat gluten. Gluten is a rubbery, semi-elastic material, and it is because of these properties that it is used for breadmaking purposes. Little attention, however, has been devoted to the possibility of using gluten in the industrial field. Too frequently in the industrial utilization of cereals the most important product was considered to be either starch or alcohol. The protein material was considered to be of secondary importance and usually sold as a feed. Sold

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as a feed it commanded the price of feed. On the other hand, the approach we would take under this activity would be to find a higher priced use for the protein, either in the food field or in the industrial field. The starch could thus command a lower price and be better able to compete with the products of the chemical industry.

Those indicate some of the activities that we would undertake on the increase in funds for cereals.

Mr. HORAN. Would that include the study of the economics?

Dr. HILBERT. Yes. As a matter of fact, before we undertake a project we attempt to determine what the cost of the process might be and whether it would be economical. If it is not in the realm of economics, we discard it. We also attempt to estimate the potential usage of the new product. We also give consideration as to whether a new product will be competitive with other agricultural commodities. There is no point in developing a new use for one commodity if it is going to displace a like amount of another commodity.

COTTON AND OTHER FIBERS

In the field of cotton and other fibers we are requesting an increase of $870,000. Part of this increase, $365,000, would be devoted to developing new and expanded uses for cotton and in lowering the cost of processing cotton. The chemical finishing process that I mentioned earlier for converting cotton goods into a wash-and-wear fabric having a permanent crease would be intensified. This is a field in which we feel we should have a research team of 25 or 30 workers, in order to bring it to commercialization as rapidly as possible.

A portion of this increase would also be devoted to developing equipment for the processing of cotton.

COTTON-CARD DEVELOPMENT

One of the bottlenecks in the cotton industry at the present time is the card. That is the equipment which alines cotton fibers in a parallel direction so that they can subsequently be twisted into a thread. At the present time a card is fed with a thick mat of cotton fibers which is about 1 inch thick. We would propose developing an entirely new procedure for feeding cotton into the card. That would be by using loose, fluffy cotton. We feel if this could be done it would eliminate one piece of machinery, the picker, in the textile operation as it is conducted at the present time.

RELATIONSHIP OF LENGTH AND QUALITY OF COTTON FIBERS

We would also undertake under this activity, work on determining the relationship between the length and the quality of cotton fibers. A great deal of cotton has small fibers which may be only a quarter-inch or three-eighths inch long. The industry believes that the presence of these fibers lowers the quality of cotton fabric, but there is no precise information as to just what their effect is.

In this activity we propose using cotton fibers of known average lengths, including varying quantities of small fibers only a quarter-inch or three-eighths of an inch long and measuring exactly what their effect is on the quality of the fabric. In the long run this information

would lead to an increase in the quality of fabric processed by the textile industry.

INCREASE FOR WOOL UTILIZATION RESEARCH

We are requesting an increase of $400,000 for research on wool utilization and also an increase of $105,000 for construction. These are two separate items. One is to construct a building at the Western Regional Research Laboratory and the other would be used the first year mainly for the purchase of wool processing equipment. I would like to give you some background on the changes that have taken place in the wool industry.

The wool industry is in a very precarious position. It has probably been as hard hit as any in the fiber industry. Since 1949, 200 woolen mills have gone out of business. Two years ago one of the largest wool manufacturers, Botany Mills, was liquidated. At the present time there is only one company which is engaged entirely on wool and that is a company in Oregon. The wool industry has been absorbed by the textile industry in general, that is by the cotton and synthetic fiber textile mills. As such there is now no industry which considers wool to be its own fiber and which is interested in improving its quality.

Because of the serious financial situation of the wool industry they have eliminated practically all of their research laboratories. At the present time practically the only research that is being done on the processing of wool, and attempts to improve the quality of wool, is being done in the Western Regional Research Laboratory.

NYLON ALLERGY

Mr. ANDERSEN. Speaking about wool and its substitutes, can you tell me what causes allergies to affect some people when they permit nylon to come in contact with their skin?

Dr. HILBERT. That may be an allergy or it may be a particular sensitivity either to nylon or a finishing agent which may be on the nylon.

I have heard of that in the case of people who are very sensitive to nylon and other synthetic fibers.

Mr. ANDERSEN. Do dacron and orlon have the same properties?

Dr. HILBERT. They have to be tested. They are entirely different materials.

PILOT PLANT FOR WOOL RESEARCH

We have had a serious problem in attempting to translate our research work results on wool into a commercial scale. There are no pilot plants which can be used to determine the cost of a process, or for that matter to find out whether any difficulties are encountered in translating the process to a larger scale. So this increase would be largely used and primarily used for the purchase of this woolen textile equipment, as well as chemical finishing equipment.

Earlier I mentioned that we had treated wool with a resin which resulted in shrink resistance in wool. We should have equipment for translating this to a pilot-plant scale so we are in a position to go to the textile industry and let them know what the exact cost is of commercializing it.

Mr. HORAN. I want to say I think this fills out the report and we ought to continue these experiments, probably, but I bring to Dr. Hilbert's attention the fact that I did have a woolen shirt that was labeled "washable."

Dr. HILBERT. Yes. Some progress has been made in improving the shrinking properties of wool. About 10 years ago a process was developed by treating wool with chlorine. When the wool is treated with chlorine there is a sharp improvement on its shrink resistance, but unfortunately that process has the property of weakening the strength of the wool fiber, so such fabrics do not have the length of life that ordinary wool had if it had been subjected to no treatment.

Mr. HORAN. Of course, if it shrinks it has a pretty short life.

Dr. HILBERT. That is right. Unless you are using a very loose sweater. That is one problem we have to look into to find out what the life of these cotton fabrics or wool fabrics are which have been treated with a resin.

ADVANTAGES OF NATURAL FIBERS

Mr. MARSHALL. In your work with wool do you know of any other fiber that has the moisture absorption possibilities and qualities that wool has?

Dr. HILBERT. Cotton is very good. The natural fibers are excellent. That is the outstanding advantage of the natural fibers. When I say "natural fibers," I am talking about wool and cotton, and in the old days, silk. They had an excellent absorptive capacity and also have a very high comfort factor.

None of the synthetic fibers have the comfort that natural fibers have. For example, a nylon shirt on a cold day feels cold and on a hot day feels hot. On the other hand wool and cotton feel warm on a cold day and not too hot on a hot day. That is one of the properties that the synthetic industry has not been able to meet, except partly in rayon, which is of course almost principally from natural sources. It is a cellulose fiber.

VEGETABLES, FRUITS, AND NUTS

The next change in the budget I would like to discuss is the one dealing with fruits and vegetables. The nonrecurring item of $785,000 for construction of the laboratory at Winter Haven, Fla., is being eliminated, but there is an increase of $181,000 to strengthen our work on surplus fruits, nuts and vegetables.

Although cotton and cereals are the most serious problems of surplus and a great deal of attention is devoted to them, we actually also have seasonal surplus problems with fruits and vegetables but they rarely make the headlines. They are burdensome to the Government and also to the farmer when they occur.

On this increase most of our attention would be devoted to converting fruits, nuts and vegetables into a palatable, convenient-to-use, storable form so that the surplus can be siphoned off during the surplus period and the product made available throughout the year.

We would devote attention to peaches grown in the Southeast. Very few peaches in the Southeast are processed. One of the difficulties is the development of brown rot. It is impossible to keep peaches

very long without the development of brown rot. The cost of processing is very high. We would study the process of storage of peaches in a processing plant from the standpoint of eliminating brown rot.

Another problem on which we would be engaged is that of grapefruit. Grapefruit is getting to be a very serious surplus problem in Florida and potentially in Texas, which has come back from the freeze it had several years ago.

In particular we would study the production and life of chilled grapefruit juice. Quite a market has developed for chilled orange juice and relatively large quantities are sold throughout the East, trucked up from Florida. The Texas industry is very desirous of having information on the chilling of grapefruit juice, its preservation and storage life.

A problem in walnuts is their rather low shelf life, after they have been shelled. The walnut industry has been expanded and is concerned that in about 2 or 3 years it will have a serious surplus problem unless it can find some new way of marketing walnuts. The industry would like to shell walnuts and put them in a transparent package so that the housewife can see the shelled walnuts and will be induced to buy more. However, walnuts have only a life of about two weeks in transparent packaging and become very rancid.

The Department's Advisory Committee and the walnut growers have been urging us to develop methods for preserving the storage life of shelled walnuts. This problem would be attacked under this increase.

Dried beans and peas, also, would receive attention. These have posed a surplus problem for the Government for quite a few years. The bean growing industry has been urging the Department to undertake work on developing a convenient to use form of dried beans and peas. The bean industry feels the reason that the per capita consumption of dried beans and peas has dropped enormously in the last 30 to 40 years is because of the great difficulty in cooking them.

It takes several hours to bake beans, and even several hours to make a bean or pea soup. The industry is desirous of having research work undertaken on the development of a process for converting beans and peas into a convenient-to-use form so that they can be made into a soup, or baked, in a relatively short time. This problem would receive attention under this increase.

Mr. MARSHALL. I believe the record should show at this point we have received a letter from our colleague, John Moss, Member of Congress from California, urging consideration of utilization research on dried beans, pointing out that it is quite vital to the industry.

Dr. HILBERT. One other activity that would be studied under this increase would be that of developing a method for improving the flavor of canned vegetables. Vegetables are canned at such high temperatures that there are very definite changes in flavor. We have reason to believe that there are flavor precursors or compounds present in vegetables which, after canning and subsequent treatment with an enzyme will lead to the restoration of the original flavor of the vegetable. This is the area to which we would devote attention. It is really the development of a method for improving the flavor of canned vegetables.

Another increase we are requesting is $260,000 for research work on linseed oil and on cottonseed oil and meal. Two hundred thousand dollars of this increase would be devoted to linseed oil and $60,000 to cottonseed oil and meal.

Up until 2 years ago the Department did not conduct any research work on the utilization of flaxseed or linseed oil or meal. The reason for this is that when the regional research laboratories were established in 1938 the Congress directed the Department to devote attention primarily to those crops which were in annual or seasonal surplus.

The Department set up a departmentwide committee to determine what crops were in annual and seasonal surplus and flaxseed at that time was not included. It was not considered to be in surplus.

In 1946, when the Research and Marketing Act was passed, the Oilseed Advisory Committee did not recommend initiation of any work on flaxseed nor did it make any comment on it. Shortly afterwards, though, surpluses began to become a serious problem for the flaxseed industry. In the last several years the Advisory Committee and the flaxseed growers and flaxseed processing industry have been urging that we undertake a strong research program on linseed oil.

Two years ago we did allot $20,000 for work on linseed oil, through a contract. The increase we are requesting would permit us to undertake for the first time a strong attack on the problem of flaxseed.

PRICE OF FLAX

Mr. ANDERSEN. I might say something should be done toward bringing the price of flaxseed up to a reasonable level. It is getting to the point the average producer throughout that big area cannot make a fairly decent income by producing it.

Dr. HILBERT. Yes.

Mr. ANDERSEN. Because the price is so low that you just cannot come out when you operate at $2.90 a bushel.

Dr. HILBERT. It is about the only crop that can be grown in North Dakota, South Dakota, and Minnesota.

Mr. ANDERSEN. And western Minnesota. It is one of the two big crops in western Minnesota.

Dr. HILBERT. It is the only cash crop they have outside of wheat and corn.

Mr. ANDERSEN. That is correct.

Dr. HILBERT. The linseed-oil industry has been sailing in heavy seas for the last several years due to the increasing competition of the chemical industry. We were undertaking no research work in the field and the flaxseed-processing industry was doing very little research in improving the quality of linseed oil. In the meantime the chemical industry was devoting a great deal of attention to introducing resins having desirable properties when mixed with drying oils.

In the 1930's for every gallon of paint sold 2.4 pounds of vegetable drying oil was used—either linseed oil or soybean oil. At the present time 1 gallon contains 1.4 pounds.

Mr. VURSELL. May I ask a question at this point off the record?

(Discussion off the record.)

COMPETITION OF LINSEED OIL WITH SOY BEAN OIL

Mr. VURSELL. Since there has been a discussion about increasing the use of new market outlets for linseed oil, Dr. Hilbert, I am wondering if such an increase would work adversely against the use of soybean oil in dryers and paints and plastics, etc.

Dr. HILBERT. No, it will not. Soybean oil as well as flaxseed oil has been getting considerable pressure from the chemical industry. The chemical industry has been developing products which improve protective coatings and are being used at the expense of both those oils. So the improvement in linseed oil as well as soybean oil would just create a larger market for the vegetable drying oils.

Mr. VURSELL. That is all, Mr. Chairman.

OBJECTIVES OF LINSEED OIL RESEARCH

Dr. HILBERT. The type of work we would conduct under this increase would be, first, to improve the present quality of linseed oil from the standpoint of its uses in protective coatings. Another activity would be to convert linseed oil to raw materials which could be used in the chemical industry. It has a great deal of promise in this area since the products that could be produced are already being used to a considerable extent in the plastics industry but are supplied from petroleum sources.

The third activity on which we would undertake work would be on getting more complete information on linseed oil. We know what the major components of linseed oil are, but we need further information on what the minor components are to know better how to handle it in the laboratory and make better use of linseed oil in industry.

COTTONSEED OIL AND MEAL

On cottonseed oil and meal the increase would be used to improve the processing conditions for upgrading cottonseed meal so that it can be used in the swine and poultry industry, and particularly for laying hens. At the present time cottonseed meal cannot be used in feeding laying hens because of the small amount of gossypol that is present which tends to color the egg yolk a deep green.

Mr. MARSHALL. What is gossypol?

Dr. HILBERT. Gossypol is an aromatic compound which is related to carbolic acid. It is much more complex but is a member of that family of compounds and it can be tolerated by ruminants but not by swine or poultry. For that reason cottonseed meal has been used almost entirely in the cattle industry in the past. In our processing studies we would not only undertake studies to reduce this gossypol content of the meal, but also to maintain its lysine content at a maximum level. It is partially broken down under present processing conditions.

INEDIBLE ANIMAL FATS

The last increase is $104,000 on inedible animal fats, which have lost one of their biggest markets, the detergent market. Shortly after World War II, 80 percent of inedible fats were used for making soaps. Last year more than 3 billion pounds of inedible animal fats were

produced and only 30 percent were used for detergent purposes. This is due to the heavy inroads synthetic detergents have made.

There have been two developments that have helped the animal fat industry. Four years ago the industry was in such a serious condition that the price of animal fats had dropped down to 4 cents a pound. Following that the Department of Agriculture and industry increased its exports of inedible animal fats—and last year those amounted to about 1,300 million pounds.

The other development is one which we are responsible for. That is the development of a new, large-volume outlet for inedible fats in the feed field. At the present time the amount of inedible fat used in feeds is about a quarter of a billion pounds. It has resulted in the stabilization of the price of animal fats at about 6 or 7 cents a pound.

Animal fats are an excellent raw material for the chemical industry. We would propose under this increase to produce from animal fats a wide variety of sulfur compounds and nitrogen compounds for the purpose of developing lubricants for which the market is tremendous, as well as products for the plastics industry.

Mr. ANDERSEN. As I told you 4 or 5 years back, if you can do something toward solving the problem you have just mentioned, that is, the sale of a lot of this product, that the appropriation we make for your Division will be fully justified in that one item.

ANIMAL FATS IN FEED

Dr. HILBERT. Yes, sir. I recall your making that statement.

Mr. ANDERSEN. Do you think you are responsible, so to speak, for getting rid of 250 million pounds of inedible fats?

Dr. HILBERT. Oh, yes. That has been freely acknowledged by the industry.

Mr. VURSELL. I did not quite understand that as to what development you made that got rid of 250 million pounds of inedible fats.

Dr. HILBERT. Well, when animal fats were priced at 4 cents a pound, on a calorie basis they were competitive with cereals for use as a feed, but no inedible fats were being used as a feed. There was no information available as to whether it would be useful to animals. We let a contract with the American Meat Institute to study the effect of fats in the diet for cats, dogs, and so forth, that is, pets, as well as in the animal industry. Their findings showed that if the animal fat is added to the diet and the fat content is 4 percent or 6 percent, that it has a beneficial effect on the animal. Subsequently that work was very well publicized.

The advantages were pointed out to the feeding industry. After they started to use the inedible fats they found there were other advantages in using fats in feeds. One of them is that the feed industry always has a serious dust problem. People and workers develop asthma and this fat reduced the dust problem. Furthermore, fat is a lubricant, so they had much easier grinding when they ground the feeds.

Another advantage gained by having the additional inedible fat in the feed is that it has a glistening appearance. In the case of alfalfa it looks like a rich green instead of a dead-looking green, and it is very attractive looking to the purchaser.

Mr. VURSELL. That is very interesting, Dr. Hilbert. That is all, Mr. Chairman.

COMMISSION ON INCREASED USE OF AGRICULTURAL PRODUCTS

Mr. MARSHALL. Doctor, what has been your relationship with the Commission on Increased Use of Agricultural Products?

Dr. HILBERT. In the Soil Bank Act there was a provision for the President to set up a commission to make recommendations to Congress on the expanded industrial utilization of farm commodities. The President appointed the members of that Commission in July. They are Mr. J. Leroy Welsh from Omaha, Nebr., who is a grain dealer; Mr. George Koppers, who is president of the National Biscuit Co.; Dr. Karl Butler, who is farm adviser to AVCO Co. and formerly connected with the American Cooperative Institute; Dr. Charles R. Sayre, who is president of the Delta & Pine Land Co., which is a large producer of cotton; and Dean Frank Welsh, who is dean of the college of agriculture of the University of Kentucky.

The Department assigned me on a part-time basis to the Commission to help them get started, and to serve as liaison with the Department. so that the Department could be of as much help as possible to this Commission in its activities. The Commission has had perhaps a dozen meetings during the last few months. As a matter of fact they are meeting in town right now. The Commission has set up about 15 task groups, most of them on a commodity basis. For example, there is a task group on grains, another on cotton, and one on alcohol for use in the production of synthetic rubber, or in motor fuel.

These task groups have been requested to make recommendations to the Commission which will lead to the expanded utilization of agricultural commodities. The Commission has devoted a great deal of attention to research and research needs of the various industries; and to incentives that might be set up to encourage industry either to do more research and developmental work or to speed up commercialization.

The Commission is expecting to make its preliminary report to Congress by the early part of March so that Congress will have an opportunity to review the recommendations during this session of Congress. The final report, however, is not due until June 15, 1957.

INCREASE IN EMPLOYMENT IN 1958

Mr. MARSHALL. How many new people are you requesting for each of your new activities proposed for 1958?

Dr. HILBERT. For 1958—do you want the number of people in each of the increases or the total number?

Mr. MARSHALL. I think we should have it by each category.

Dr. HILBERT. Under cereals, 65; cotton, 48; wool, 10; fruits and vegetables, 21; oilseeds, 33; and poultry, dairy and animal products, 13.

Mr. MARSHALL. Have you had or do you anticipate any trouble in getting qualified employees for these positions?

Dr. HILBERT. We feel we can get these employees but we are going to have to work a great deal harder than we had to work 10 or 15 years ago. At that time we had registers which were supplied to us by the Civil Service Commission and we just merely picked the men off that register. Now we have to recruit much more intensively, but this year we have had very fine success. Under the increases for 1957

the total number of positions that were set up amounted to 146. At the present time we have filled 114 of these positions.

In other words, the great majority of these positions have been filled, and we are still recruiting for 32 of these positions. I anticipate we will be able to fill all of the vacancies that we set up under these increases.

WORK AT FOUR MAJOR LABORATORIES

Mr. MARSHALL. Could you review briefly he major items of research performed in each of the four major research laboratories?

Dr. HILBERT. Of the developments I discussed earlier, the one on starch was done at the Northern Laboratory; the one on cotton was done at the Southern Laboratory; the work on temperature tolerance of frozen fruits and vegetables was done at the Western Laboratory; the work on potato flakes at the Eastern Laboratory; the work on instant potatoes at the Western Laboratory; the work on poultry at the Western Laboratory.

Mr. MARSHALL. Is there a line of demarcation between the type of work carried on in each laboratory?

Dr. HILBERT. Yes. At each laboratory they are working on the problems that are of primary interest in the region in which the laboratory is located. For example, our work in the Southern Laboratory is on cotton and cottonseed, peanuts, rice, cane sugar, the fruits and vegetables of the southern region, and on tung nuts.

At the Western Laboratory we are primarily working on fruits and vegetables, poultry products, wheat, sugar beets, wool, alfalfa, and rice.

At the Northern Laboratory we are working on cereal crops, including corn, wheat, and small grains; and on soybeans, flaxseed, and new crops, as well as agricultural residues such as corncobs and wheat straw.

At the Eastern Laboratory we are engaged primarily on animal products; on milk, meat, hides, and skins; inedible animal fats, fruits and vegetables, honey, maple sugar, and tobacco.

TOBACCO STUDIES

Mr. NATCHER. What studies if any do you have underway at the present time pertaining to tobacco?

Dr. HILBERT. At the present time we are engaged in determining the flavor components of tobacco. The main components of tobacco which are responsible for flavor and aroma are the polyphenols, the resins and the alkaloids. We are studying those components in a wide variety of different tobaccos. For instance, the tobaccos which have been in distress are those which have a very light aroma and flavor.

In addition to those studies we have also a fellowship with the National Cigar Manufacturers Association. We have an experienced research man who has undertaken studies on the composition of cigar tobacco, as well as the composition of cigar smoke.

Mr. NATCHER. Doctor, as you well know, types of tobacco that are selling well today were not necessarily the best sellers 4 or 5 years ago. We have many new quality changes. This has been brought about as a result of the change in the manufacture of cigarettes.

What studies, if any, do you have underway at the present time concerning the new type filter process, and change in cigarette manufacture?

FILTERED CIGARETTES

Dr. HILBERT. In filtered cigarettes at the present time they are using the heavy-bodied tobaccos because in the filtered cigarettes more of the aroma and flavor comes through the filter from those tobaccos. In the case of the light-flavored tobaccos and tobaccos that do not have a heavy body, aroma is largely removed by the filter.

We have underway studies on those factors in various tobaccos which are responsible for flavor and aroma, and from those studies we expect to get a clue which will be helpful in the solution of this problem. Certainly one possible solution is the curing method. We know the curing method has a profound influence on the quality of the tobacco, but the first step is getting this basic information on what is in tobacco. Then following that we should follow the transformations that occur in curing and which lead to the development of aroma and flavor.

RECENT MAJOR ACCOMPLISHMENTS IN UTILIZATION RESEARCH

Mr. NATHER. Your Division has many accomplishments to its credit. If I ask you to name 4 or 5 of the major accomplishments of your Division during the past 5 years, what would your answer be?

COTTON OPENER

Dr. HILBERT. I would say that one of our most important developments has been the cotton opener. The cotton opener has been adopted by industry. A third of the textile industry is using it at the present time and within the next several years the whole of the cotton industry will use it. The cotton opener effects a saving of about 50 cents to a dollar per bale of cotton.

FRUIT AND VEGETABLE POWDERS

Another development is the development of powders from fruits and vegetables. We believe it will have a tremendous impact upon the fruit and vegetable industry.

One other of our important developments is the one I referred to today on potatoes.

DEXTRAN

Still another one is the development of a blood plasma substitute which is called dextran, which has been commercialized and stockpiled by the Department of Defense. This synthetic plasma would be of inestimable use and value if we are ever in a war and subjected to atomic bomb warfare because ordinary blood plasma is in such limited supply that there would never be enough of that available to treat the hundreds of thousands of casualties that might develop. It is necessary to have a synthetic product. The Department of Defense has stockpiled millions of units of dextran.

Another, which I discussed earlier, is the use of inedible fats in feeds. This has provided a new market for fats amounting to a quarter billion pounds.

Mr. NATCHER. I want to thank you for the fine statement you have made to this committee and say to you quite frankly that I think you are doing a fine job.

Dr. HILBERT. Thank you very much.

Mr. ANDERSEN. Mr. Chairman, I would like to join in that last statement of Mr. Natcher. I am always interested in the work that you report to us, Doctor. It is very beneficial to the Nation as a whole.

Mr. MARSHALL. It is certainly always interesting.

Mr. VURSELL. I have enjoyed the gentleman's testimony very much. I think he has brought out some splendid points and the prospectus that he hopes to follow in the future in the research such as he has followed in the past, as he explained today offers a lot of assistance to agriculture, I think, in particular, in the future.

Dr. HILBERT. Thank you very much. It is always a pleasure to meet with you gentlemen.

Mr. MARSHALL. We thank you, Dr. Hilbert.

THURSDAY, JANUARY 31, 1957.

PLANT AND ANIMAL DISEASE AND PEST CONTROL

Mr. MARSHALL. The committee at this time will be very pleased to hear from Dr. Clarkson. We note one of the first items he has under discussion will be plant pest control which, believe it or not, gentlemen, shows a reduction of $3,626,100. That is certainly a rarity in this budget. Dr. Clarkson, to start off how do we have a figure that shows a reduction to that extent?

Dr. CLARKSON. Mr. Chairman, the exigencies of the plant and animal disease and pest prevention control problems govern the size of the expenditure. We are pleased to be able to report among other things some very sizable reductions for the budget year.

These programs, Mr. Chairman and members of the committee, you will recall are those activities of the Agricultural Research Service that are closely related with the research program that you have been reviewing. They are the action programs intended to protect the livestock and crops of this country from diseases and pests through cooperation with the States, localities, farmers and livestock men, and through the administration of various Federal acts. I think it is worthwhile to mention those acts.

ACTS AUTHORIZING CONTROL AND REGULATORY ROGRAMS

They include the Plant Quarantine Act which is designed to prevent the introduction into this country of foreign diseases and pests of crops and plant products.

There are several related acts such as the Plant Pest Act which authorizes the Department to cooperate with the States in preventing the spread of crop pests between States, and the Organic Act of the Department covering cooperation with the States in control and eradi-

cation projects which are of such size that the States or the individual growers cannot handle them themselves.

For the most part growers are expected to take care of their plant and animal diseases and pests, but some problems, some few of them, get so large as to have interstate implications, either through rapidity of their spread or the damage which they may do to neighboring States and areas. In such cases it is appropriate for the Department to cooperate in control and eradication in order to bring about a unified project and to protect one State from the damage which might arise from conditions in another.

Other acts we administer are the animal quarantine acts which are parallel to the plant acts I just mentioned, to authorize the Department to prevent the introduction into and the interstate movement of, and cooperate with the States in the suppression of animal diseases.

Then we administer the Meat Inspection Act, the Imported Meat Act, the Virus Serum Toxin Act, which protects us in this field so important to the health of our livestock, and the Insecticide, Fungicide and Rodenticide Act, which is designed to see that such products moving in interstate or foreign commerce are useful and that they are properly and safely labeled.

Now, Mr. Chairman, I have a few graphs, charts, and pictures that, if you will permit, I would like to show the committee, and then after that, we can go into the various projects in more detail or supply them for the record, as you wish.

Mr. MARSHALL. We would like to see your charts.

PLANT PEST CONTROL

KHAPRA BEETLE

Dr. CLARKSON. The Khapra beetle, as you recall, is an introduced pest of stored products which came in probably from Asia some 4 years ago. We have had a cooperative project carried out in cooperation with the States of California, Arizona, and New Mexico, and with the Republic of Mexico, for its eradication.

We have, during the course of this work, inspected over 41,000 premises, from enormous grain elevators to the storage premises on small chicken ranches. We have found in that number some 409 have been infested and, of those, 110 million cubic feet have been fumigated through the application of methyl-bromide gas after the premises have been completely enclosed in vapor-tight coverings, as shown in the right-hand picture of this chart.

That particular place is a grain-storage premise in the Imperial Valley of California. Its capacity is from 2½ to 3 million cubic feet.

On the left is a very greatly enlarged photograph of the larvae of the Khapra beetle attacking kernels of corn. From the comparison in size, you can see how small it is. It is not its size that is damaging, it is its prodigious ability to reproduce.

MEDITERRANEAN FRUITFLY

This chart shows the Mediterranean fruitfly to be a small insect, from one-eighth to a quarter-inch in diameter. It is an introduced pest. It has gained a foothold in the United States twice, once in 1929 and once a year ago, both times in Florida. This time it spread from

point of introduction to 28 counties of Florida, requiring the organized airplane spraying of nearly 800,000 acres.

The picture shows the adult flies very greatly enlarged. On the left you see the larvae of the fly in an orange. This fly, in order to perpetuate itself, must lay eggs in one of the host fruits, and citrus fruits and peaches are among the most favored by the fly. The eggs hatch, the larvae develop as worms or maggots, as they are sometimes called, and, of course, the fruit is destroyed.

The Federal authorities and those in the industry and the authorities in Florida are convinced that if this fly were allowed to persist, it would place a heavy burden on the fruit industry in Florida and in the neighboring States.

Mr. MARSHALL. Do we understand, Dr. Clarkson, that you have this under control?

Dr. CLARKSON. We feel very good about the current situation. The 800,000 acres requiring treatment have been reduced to about 28,000 acres which are now under spray. We spray every 7 to 10 days with a mixture of malathion and a bait or an attractant which attracts the flies from some distance so that, even though there may be some missed places in this airplane spraying, the fly will come a reasonable distance to the spray and then be killed by ingestion.

Mr. MARSHALL. And do I understand also that in the control of the Mediterranean fruitfly you have the very best cooperation with local and State authorities, and have had?

Dr. CLARKSON. I have never seen better cooperation anywhere. The State of Florida has put into this program a little more than the Federal Government has, and we have put in nearly $5 million. Their figure is just slightly over $5 million. Besides they have had all of the inconveniences attached to the imposition of Federal and State quarantines and the repeated spraying of large areas with this insecticide.

The lower left-hand photograph shows the operation of roadblocks which were instituted and manned by the State of Florida to prevent the movement out of the area of fruits and a large number of other host crops which might have carried the fly if they were not properly treated.

Treatment stations were set up and certifying procedures were provided so that commercial fruit and individual lots of fruit could be moved if they had been properly fumigated.

VALUE OF FRUITFLY-CONTROL PROGRAM

Mr. VURSELL. Since we are on that subject, Mr. Chairman, before he leaves it, we have put in about $5 million in this emergency, and I take it from what you say the State and local authorities probably contributed a little more. Do you have any guess right now, while this thing is hot, as to the savings in agricultural citrus production from the benefits from the money we have spent which might be returned in the next 2 years?

Dr. CLARKSON. It is being conservatively estimated that the savings in lost fruit would amount to $20 million annually in Florida alone, without considering the peach crop in Georgia and some of the fruit crops in other nearby areas.

In my opinion, it would mean much more than that, because there would be the loss of trade due to the resistance of buying against fruit which might have these larvae in them.

Mr. VURSELL. I think that is a remarkable accomplishment through the cooperation of your organization and this committee and the people on the local levels.

Dr. CLARKSON. I should say one other thing, that we have in operation now 45,000 traps baited with an attractant which will attract the male flies for a considerable distance, up to a mile, and these traps are serviced regularly, 2 or 3 times a week, by State and Federal personnel. So there will be survey and trapping work which must continue over a period of time.

We have also instituted a system of trapping near ports of entry by our quarantine people—and I will talk about it a little later—as a permanent extra guard against the reintroduction of this and other pests.

Mr. MARSHALL. I think we ought to also point out at this time that the Congress took recognition almost immediately of the danger of the Mediterranean fruitfly and met it very expeditiously in pushing through appropriations so that you might carry on this work.

Dr. CLARKSON. Congress gave us everything we asked for, Mr. Chairman. I am very impressed with all our relationships.

Mr. ANDERSON. One final question on that, Doctor. Will you continue this spraying as long as you will trap the flies?

Dr. CLARKSON. Yes. That is a variable thing, but in general that is so.

We have trained men on the ground who are able to determine from our catches of flies and from our constant inspection of fruits and other hosts, what the situation is in an area, whether this is a "stray" that has gotten in or whether it is the result of an infestation. And we vary in length of time and in intensity of spraying according to that determination.

I might add another note, that through the appropriations made some 10 years ago for work in Hawaii on the Oriental fruitfly, which was approaching our western shore, we were able to do the work that gave us the tools to handle this job. The way it was eradicated in 1929 was a tedious method of destruction of all fruits in the area. The fly at that time infested the Orlando area where there is not a great deal of alternate-host crop in the area. It was said by the experts in charge at that time in their final report that, had the fly progressed to the southern Florida area around Miami and the wild country west of there where there are numerous wild hosts, providing year-round host fruit for the fly, that it was at least doubtful whether the eradiction could have been accomplished.

This time the fly made its appearance in that southern area, in Miami. And we are convinced that if we had had only the tools at hand in 1929, we could probably not have done this job.

ADEQUACY OF APPROPRIATIONS FOR FRUITFLY CONTROL

Mr. MARSHALL. Dr. Clarkson, the Congress recognized the danger of this Mediterranean fruitfly and made prompt appropriations to take care of it. How near did the estimates that you provided to the

Congress come out in the final analysis? Were you able to make any saving out of the amounts appropriated?

Dr. CLARKSON. We believe now that we will come out about even at the end of the year. If we were to have several unfortunate recurrences in some of the larger areas, the money would not take us through the year.

I do not think we are going to have enough unpredictable good fortune to allow us to have very much savings. But, as you know, if the funds are not needed, they will not be spent and will revert to the Treasury.

SOYBEAN CYST NEMATODE

Another of our emergency problems that was discussed briefly with the committee last year is the soybean cyst nematode. This is a microscopic eel-like being of the animal world that attacks the root systems of soybeans. It apparently was introduced through some means from the Far East, where it had been known before. It was found first 3 years ago in a soybean field in North Carolina.

The State of North Carolina, with our cooperation, has been conducting research and has effected quarantine measures to prevent its spread. We had thought that Federal quarantines would not be necessary, and had estimated that only a small amount of money would be required to take care of our share of the protection against spread and to try to suppress it in the small area of North Carolina involved, some 1,400 acres.

This, on the right, is a picture of an infested field. The area in the center, which is obviously wilted and of poor growth, is the area infested by the nematode.

On the left-hand side of the chart is a comparison of individual plants of the same age which have been subjected to the same cultivation practices, except that the small one has been infected with the nematode, the large one has not.

Recently the nematode has been found in the northwestern county of Tennessee and the adjoining, southeastern county of Missouri. We have thus far found 2,200 acres infested in those 2 States. This has caused a great deal of alarm. It is the belief of all who have examined into this matter that if allowed to spread throughout the major soybean-growing areas of this country, it would be disastrous.

Mr. VURSELL. May I ask a question at that point? It is a little out of order.

Mr. MARSHALL. Mr. Vursell.

Mr. VURSELL. You realize I am only here about half the time. I have not learned as yet where this infestation attack comes; does it come in the root of the plant or the stem of the plant?

Dr. CLARKSON. In the root. The nematode attacks the finer roots of the plants.

Mr. VURSELL. And does that small growth in the center indicate an area that has been attacked?

Dr. CLARKSON. Here?

Mr. VURSELL. Over farther.

Dr. CLARKSON. Yes, sir. That shows the debilitation of the plants.

Mr. VURSELL. It took it clean where it went almost, apparently.

Dr. CLARKSON. Well, those plants are alive; they are growing.

Mr. VURSELL. I know.

Dr. CLARKSON. But the yield is reduced to away below economic level.

Mr. VURSELL. I can see that from here.

That is all.

PUBLIC HEARINGS ON SOYBEAN CYST NEMATODE SITUATION

Dr. CLARKSON. We had a meeting with State research, control, and extension people in Memphis 2 weeks ago and invited especially the States that were affected and those surrounding, and then sent out a general notification to all the States that all would be welcome. We had a thorough review of our situation.

Then today we had a public hearing in the Department on a proposal to establish a Federal quarantine on the three States—Tennessee, Missouri, and North Carolina—to prevent interstate spread.

Our system, when a quarantine is established, is that it applies to the whole State. But if the State then applies intrastate measures which are equally effective, we will then apply our quarantine only to the small regulated areas which are immediately affected and relieve the rest of the State of that burden. We have every assurance from all three of those States that that kind of mutual action will be taken.

We are trying to ascertain the needs for both research and action to suppress the nematode while the quarantine is holding it from spread.

We have underway now an extensive survey in cooperation with the States. Recent developments have been rather reassuring in that we have not added greatly to the infested acreage.

I think we must be prepared, however, for some additional acreage, perhaps in some additional States. There are some 22 million acres of soybeans growing in the United States, and it is a very important project.

WITCHWEED

Another one of our emergent problems is a parasitic plant which infests corn and certain other plants of the grain family particularly. It is called, rightly enough, witchweed. It is a native of Africa. And this plant also has somehow gotten past the guard, and it has been found during the past fall in several counties of North Carolina and adjoining South Carolina, as shown on this map.

We have had a rather extensive survey in the latter part of the growing season, cooperatively with the States, and that is the extent of the infestation now known. The oncoming growing season may disclose some additional premises.

This plant grows from a microscopic seed which will germinate only in the presence of the roots of one of the host plants. When it germinates, its roots seek out the roots of the host plant, attach themselves to it and draw their life from the life of the host plant, until in about 3 weeks they emerge above the ground, and then the parasitic plant forms leaves and begins to contribute to its own nutrition. But throughout its life it continues to parasitize the host plant.

And here, again, like the nematode, this disease reduces the crop to below economic level. Our people have become greatly excited about it, and from their observance of it in Africa, from published information from Africa they liken it to the cornborer in its potential effect upon the corn crop of this country.

We held a hearing yesterday to consider a Federal quarantine against this plant, which we consider a most dangerous disease of corn and other related crops.

The plant, when it seeds, which it does very rapidly after it emerges above ground, can produce from 100,000 to 500,000 seeds each.

I brought these two pictures, Mr. Chairman. One shows the plant growing in the center of the rows of corn; the other shows how it attaches itself to the main roots of the corn plant.

Mr. MARSHALL. How do you control that?

Dr. CLARKSON. The control measures are not as well worked out as we would like. We are going to have to evaluate this problem to determine what research will be needed and what are the best control measures.

One very obvious control measure is to keep it from seeding. That can be done by careful and close cultivation to keep the plant from seeding.

One control measure that has been suggested, and which has been used to some extent in Africa, is to plant a trap crop, one of the cereal family, which will induce the witchweed to germinate and to grow, and then to kill the whole crop after the weed has come above ground, before it has a chance to seed. That is a procedure which may be entirely uneconomic to the owner of the land.

This season we will, at a minimum, urge the destruction of all weeds in these fields so as to prevent further seeding.

The quarantine measures with this disease, as with the soybean cyst nematode, will be aimed primarily at restricting the movements of soil and things that can carry soil, which might be farm implements, the uncleaned corn, corn stalks, and so on to uninfested areas.

The witchweed plant, as you can see from the picture, is about 8 to 10 inches in height.

OTHER PLANT PEST CONTROL PROGRAMS

Before leaving our cooperative work with States, I should like to comment briefly on certain other programs that have received attention during the year. Continued progress was made in the eradication of barberry bushes in small-grain-producing areas of the country.

Only 3 properties, totaling about 150 acres, were added to the area infested with the golden nematode as a result of last year's survey and studies continue in an effort to find a means of freeing soil of infestation as a basis for an eradication program.

Progress was made during the year in the eradication of outlying infestations of the white-fringed beetle which has been successfully confined to areas totaling less than 600,000 acres in 9 States. It is encouraging that no specimens have been found on about 160,000 acres following the application of soil treatments currently in use.

There was no extension of the area known to be infested with the pink bollworm during the 1956 growing season and both the Mexican fruitfly and the citrus blackfly have been successfully contained at the Mexican border for another year.

The grasshopper outlook for 1957 is particularly menacing in the drier portions of the Great Plains area and in the Northern mountain States. Fall surveys indicate some 22 million acres must be watched closely at the time the hoppers hatch in the spring and the heavier

populations subjected to suppressive measures if severe damage is to be avoided.

The Department continues to cooperate with the State of Florida in connection with the containment and suppression of the burrowing nematode which causes spreading decline of citrus. In this instance the Agricultural Research Service conducts the surveys and provides the technical services necessary to establish boundaries of infested areas. The State assumes responsibility for "pushing" the diseased trees and treating the soil to eliminate infestation.

Substantial progress was made toward completing the eradication of the Hall scale and adjustments have been made in the program with this in mind.

Although the Japanese beetle continues to invade new territory around the periphery of the generally infested area the cooperative program is proving effective in preventing long-distance spread. Where new infestations are found they will receive first consideration in planning the 1957 program.

Plant Quarantine

Now, Mr. Chairman, I would like to talk about our plant quarantine work.

TRANSFER TO BUREAU OF CUSTOMS

The committee will recall that the committee allowed, and Congress voted, $800,000 in our plant quarantine project last year for transfer to the Bureau of Customs so that that Bureau might reinstate what we have called a 100–percent inspection of baggage of passengers of all kinds coming into this country from foreign lands.

The Bureau of Customs had previously determined that in the enforcement of the laws for which they are responsible such a level of inspection was not necessary. But it had been determined, and they had agreed, that it was necessary to protect against diseases and pests, of plants and animals, in other words, for agricultural quarantine. It is not possible for us to inspect baggage unless Customs does it.

That money was made available to the Bureau of Customs. They reinstated their full coverage, and immediately the seizures of contraband agricultural materials increased very markedly. There was an immediate increase in seizures of contraband at the port of New York of well over a hundred percent from what we had been obtaining on similar ships and similar planes theretofore.

For the country as a whole, the increase has amounted to between 15 and 20 percent, consistently, as a result of this new work.

The committee directed the Department to make a study of this matter and to determine ways and means whereby we could encourage passengers not to bring with them plant and animal materials that would be subject to our quarantine. We have worked with the Bureau of Customs and others during the intervening time and have taken a number of measures, some of which are new and some of which are a reemphasis on measures already taken.

Here is a small leaflet put out by the Customs Service with our cooperation called Customs Hints, which devotes a full page to emphasizing animal and plant quarantine requirements. The effort is to get that in the hands of every traveler, and a very great number have been distributed.

Consular offices in all foreign posts have been directed by the Secretary of State to bring these Customs Hints to the attention of persons traveling to the United States. The customs baggage declaration has been revised to carry a specific warning against these contraband materials.

A particular baggage declaration has been in use for passengers en route from Hawaii to the continental United States, that is, intrastate movement; but it has been used with the cooperation of the ship and airlines and our people.

Conspicuous warning signs have been placed at all major ports along the Mexican border. Consideration has been given to similar signs at foreign ports of embarkation, but that has not been possible to accomplish. We have been able to do it in lands under our jurisdiction, but so far not in foreign lands.

Some of the airlines are undertaking to make particular announcements to their passengers in flight.

Then we have stepped up our general informational activities. We have encouraged our people to get on the radio in various localities; the magazines, such as the Farm Journal and the Saturday Evening Post and others, have carried important items on these quarantine activities during the past 2 or 3 years. We work regularly with the Air Coordinating Committee, on which is represented all Government agencies having an interest in this matters.

I have a rather complete document here, Mr. Chairman, which, if you will permit, I would like to put in the record.

Mr. MARSHALL. The committee would like to have that in the record, too.

As you know, this committee has given a great deal of emphasis on that.

(The documents referred to follow:)

MEASURES TAKEN TO ACQUAINT PUBLIC WITH AGRICULTURAL QUARANTINE RESTRICTIONS

The House Committee on Appropriations report (Rept. No. 2148) on the Department of Agriculture and Farm Credit Administration appropriation bill, 1957, page 7, paragraph 2, contains the following statement:

"In working out the program for the use of the additional $500,000 (subsequently approved for $800,000) to be transferred to the Bureau of Customs, the Department is directed to develop a program which will prevent passengers from embarking at foreign ports on carriers destined for the United States with dangerous articles and materials in their luggage. It is recommended that all customs notices and declaration forms be revised to include adequate notice to travelers as to what items are not permitted to enter this country. It is also suggested that prominent signs and notices be posted at foreign points of embarkation to bring this matter to the attention of those destined for American ports. The committee also believes that, as far as practicable, arrangements should be made for preinspection at foreign ports to reduce to a minimum the inspection required upon arrival in the United States. The committee is of the opinion that the great majority of travelers will cooperate fully and will be anxious to avoid carrying prohibited articles in their luggage if given adequate advance notice."

The following measures have been taken to meet the problems raised by the committee:

NOTICES

1. Custom Hints, a leaflet issued by the Customs Service for the information of persons entering the United States and containing conspicuous references to plant and animal quarantine regulations is being widely distributed to travelers. Copy attached.

2. Consular officers in foreign posts who have occasion to issue visas and other travel documents have been requested by the Department of State to bring Custom Hints to the attention of persons traveling to the United States.

3. The customs baggage declaration form was revised during the past year to include a conspicuous warning with respect to restrictions on the entry of fruit, other plant material, meat and meat products. Copy attached.

4. A baggage declaration referring specifically to plants and plant products must be executed by ships' passengers en route from Hawaii to the continental United States. Copy attached.

5. Conspicuous warning signs have been placed at all major ports of entry along the Mexican border referring to restrictions on the entry of plant material into the United States. Photograph attached.

6. Similar signs have been placed in the air terminals in Hawaii, Puerto Rico, and the American Virgin Islands. Informational exhibits of plant pests have been placed in the foyers of terminals at the International Airport and Hickam Field, Honolulu. The feasibility of placing warning signs at foreign airports has been explored. In view of the fact that the signs would have to be worded in several languages, requiring considerable space, and considering the necessity of obtaining permission from the appropriate authorities in each foreign country concerned to place and maintain them, and other obstacles, this practice does not appear to be workable at the present time. It is believed, however, that the following alternative will accomplish the same purpose just as effectively.

7. The possibility of having some of the overseas airlines make announcements or distribute statements on agricultural quarantines to passengers shortly before landing in the United States is being explored. One airline has agreed to distribute a statement along the following lines, printed in Norwegian, German, French, and English, to its passengers:

"Because there is a risk of introducing more destructive plant and animal pests from abroad, the United States Department of Agriculture requests your help in safeguarding against that risk. All fruits, vegetables, or meat products brought abroad the airplane with you should be entirely consumed before reaching Los Angeles or given to the stewardess who will place them in a container for proper disposal by the agricultural inspector upon arrival. All plants, cuttings, bulbs, or seeds, as well as fruits, vegetables, or meat products in your checked baggage, should be declared to the customs officer when your baggage is inspected. Some kinds of plant material are permitted entry and an inspector of the Department of Agriculture will be available to advise you in this regard during customs inspection of your baggage."

8. A card notification of restrictions on the movement of fruits and vegetables from Hawaii to the mainland is placed in each stateroom of the Matson Line vessels making this voyage.

9. Regulations and orders of the armed services specifically cover restrictions on the entry of plant and animal materials. (Army Regulation No. 42–40; AR No. 55–161; Navy Dept. G. O. No. 20; Air Force Regulation No. 160–26; AFR No. 75–57; and AFR No. 76–29.)

GENERAL INFORMATIONAL ACTIVITIES

1. A motion picture is being prepared emphasizing the danger of new agricultural pests being brought in with plant material and animal products carried in passengers' baggage. This picture will be made available to steamship companies to be shown on board passenger liners, to other transportation agencies, television stations, and other outlets.

2. Magazine articles on the subject have appeared in popular national publications and in trade journals. Among them were the following:

They Fight an Endless Invasion, Saturday Evening Post, October 10, 1953
Uncle Sam's Ark, Saturday Evening Post, December 3, 1955
Plant Quarantines Protect against Alien Plant Pests, Picture Story No. 98, Office of Information, USDA
Preshipment Inspection Brings Better Bulbs to American Gardeners, Foreign Agriculture, April 1956
Plant Quarantine Laws Help Keep Our Gardens Healthy, Flower Grower, November 1956
En Garde against Foreign Plant Pests, ACCO Press, November 1956. Copy attached
See What's Knocking at Our Door, Country Gentleman, December 1950

There have also been comprehensive articles on both animal and plant quarantines in newspaper Sunday supplements and in the daily press.

3. Radio broadcasts. Opportunities are being taken to discuss agricultural quarantine restrictions on radio programs. Recent broadcasts included one made over station WRCA in New York City on September 19, 1956, one over station WHAI, Greenfield, Mass., on November 25, and one made over the Clemson College station, also during November.

4. Working in a component of the Air Coordinating Committee the Department keeps before representatives of the overseas air carriers the requirements of animal and plant quarantine for baggage, cargo, and stores. Information on agricultural quarantine is thus passed directly to airline operators through their representatives and indirectly to them through official channels of this Government and the International Civil Aviation Organization for the benefit of their passengers and the shippers of agricultural products. Local committees on air facilitation, on which animal and plant quarantine inspectors are members, are functioning at the larger international airports.

5. Pamphlets issued by certain airlines operating overseas, including PAA, Delta, BOAC, Air France, KLM, TWA, and NWA, also contain information on agricultural quarantine restrictions. Efforts are being made to have this practice adopted by additional airlines.

6. The USDA Yearbooks for 1952, 1953, and 1956 contain comprehensive articles on plant and animal quarantine restrictions.

7. Agricultural attachés destined for foreign posts are thoroughly briefed on agricultural quarantine restrictions in order that they may in turn inform travelers to the United States on this subject.

8. Plant and animal quarantine restrictions have been the subject of talks made before civic organizations, churches, schools, societies, and other groups. Animal and plant quarantine inspectors at the port of New York give talks before the customs inspectors' school setting forth agricultural quarantine restrictions.

The effectiveness of the foregoing measures in preventing travelers from bringing unauthorized agricultural material into the country is difficult to appraise. Some of the measures have been in effect for a number of years but at the same time there has been a steady increase in the number of people entering the country each year with a corresponding increase in the amount of unauthorized material intercepted from baggage. More material would undoubtedly have been intercepted had these steps not been taken to supplement baggage inspection, but it has been demonstrated repeatedly that they cannot be relied upon as a substitute for actual inspection.

The effect of the return to complete baggage inspection on agricultural quarantine protection has been significant. During the last 6 months of 1956, 150,856 lots of unauthorized plant material were intercepted as compared with 127,725 lots during the same period in 1955 when spot-check inspection was in effect. This represented an increase of 23,131 interceptions or 18.2 percent. There have also been marked increases in interceptions of prohibited and restricted meats and meat products. During the first 5 months after baggage inspection was strengthened 8,247 lots (39,658 pounds) of meats and meat products were intercepted as compared with 5,428 lots (34,239 pounds) during the same period of 1955. This represented an increase of 34.2 percent in the number of lots and 13.6 percent in the total amount intercepted.

Predeparture inspection at foreign ports. The advantages of this procedure are recognized. Planes destined to the mainland from Hawaii have been given predeparture plant quarantine clearance for the past 20 years. A similar practice is followed with respect to aircraft leaving Puerto Rico for the continental United States. Rail traffic, passengers, and cargo from several Canadian points are cleared prior to departure for this country and air passengers from Toronto are being cleared in Canada. Certain mass movements of military planes, and large bodies of troops brought back to the United States by air have been given predeparture clearance.

This procedure has proven highly satisfactory and the practicability of extending it to additional foreign points has been under study for several years. The study has taken into account: (1) Whether the operation would be more economical and efficient for Agriculture as well as for the other border clearance agencies involved; (2) lack of legal authority to enforce the laws concerned in foreign countries; (3) necessity for approval by the foreign countries involved; (4) need for adequate inspection facilities at foreign points where inspection would be performed; (5) whether the volume of traffic would justify predeparture inspection; and (6) the fact that predeparture inspection by Agriculture

must be coordinated with predeparture clearance by the Customs Service which is concerned with baggage and cargo on a wider basis and consequently faces much broader problems. To do otherwise would bring about a duplication of effort and greatly increase total inspection costs to the Government. To date these problems have not been satisfactorily resolved but we shall be on the alert for opportunities to extend predeparture inspection to additional foreign points where it is found practicable and economical to do so.

UNITED STATES CUSTOMS HINTS

PROHIBITED AND RESTRICTED ARTICLES

Whether you are a resident or nonresident, you may pay duty (and internal-revenue tax if any is due) on any article which is not entitled to free entry, provided the article is allowed to be brought into the United States. If under the law the article is not allowed to be brought into this country, the customs officer cannot permit you to have it. Consult a customs officer if you have any doubt whether a particular article may be brought into the United States. Please read the following carefully:

Fruits, vegetables, plants, and plant products

The United States Department of Agriculture is responsible for preventing the entry of injurious insect pests and plant diseases into this country from foreign lands. For this reason, the Bureau of Customs cooperates with the Department of Agriculture in enforcing special regulations affecting fruits, vegetables, plants, and plant products. You cannot bring in certain specified fruits, vegetables, plants, cuttings, and seeds. Other kinds of plants and unprocessed plant products must be inspected or treated before you can bring them in.

If you know ahead of time that you want to bring in plants and plant products, the best way to avoid any difficulty or delay is to make arrangements in advance. Applications for import permits or requests for information on such importations should be addressed to the Import and Permit Unit, Plant Quarantine Branch, 209 River Street, Hoboken, N. J.

In any event, declare all plants and unprocessed agricultural products in your possession to the plant quarantine inspector or customs officer at the United States port of entry. Even a single plant, fruit, or vegetable should be presented for inspection, no matter how inconsequential or free of pests it may appear to be.

With a little thought and a moment's time, you can help to prevent the entry of injurious insects and plant diseases. Failure to declare plants and plant products may result in further costly and often irreparable damage to the agriculture of this country through introduction of dangerous plant pests.

Livestock and meats

The Bureau of Customs also cooperates with the Department of Agriculture in enforcing laws and regulations aimed at preventing the entry of foreign animal diseases that could seriously threaten the livestock industry of the United States. The Department is particularly concerned about rinderpest and foot-and-mouth disease. It has been estimated that if foot-and-mouth disease, for example, were to gain entrance into this country and become established, the annual loss would exceed $200 million.

The entry of fresh, chilled, or frozen meats from cloven-footed animals (cattle, sheep, goats, swine, deer, antelope, etc.) from any country in which rinderpest or foot-and-mouth disease is known to exist is prohibited. That includes practically every country of the world. The entry of foreign cured and cooked meats, such as bacon, hams, sausages, bologna, salami, and the like, is restricted under such specialized requirements that the average tourist could not conform to them. So, for all practical purposes, you may consider cured and cooked meats prohibited. You may bring in dressed poultry if it has been drawn and the heads and feet removed.

You cannot bring in cloven-footed animals or organs, glands, extracts, or secretions, from such animals from any country infected with rinderpest or foot-and-mouth disease. You may bring in live poultry (including eggs for hatching) if you have a permit from the Animal Inspection and Quarantine Branch, United States Department of Agriculture, in Washington, D. C.

Prohibited animals, meats, or meat products must be seized by Customs or Department of Agriculture inspectors at ports of entry and destroyed unless they are immediately returned to the country of origin.

Should there be any doubt as to whether certain animals or products may or may not be brought into this country, write to the Animal Inspection and Quarantine Branch, United States Department of Agriculture, Washington 25, D. C., for information.

DEPARTMENT OF STATE INSTRUCTION

No.: CA 5421, January 7, 1957.
Subject: Distribution of information on agricultural quarantine restrictions.
To: All consular officers.
Rpt. info. agricultural attachés (list attached).
From: Agriculture.

The continued growth of international travel is greatly increasing the hazard of new foreign plant pests and animal diseases becoming established in the United States. The danger of new pests and diseases being brought in with unauthorized agricultural material carried with passengers' personal effects is especially serious. It is possible that the Mediterranean fruitfly, which recently appeared in Florida and is considered one of the world's most destructive pests of fruits and vegetables, gained entry in this way.

In an effort to reduce this threat the Department of Agriculture is seeking additional means of informing the traveling public on agricultural quarantine restrictions. One effective means has been through distribution of a leaflet, Customs Hints, in which are summarized restrictions on the entry of fruits, vegetables, plants, plant products, livestock, and meats. A copy of the leaflet is attached.

Consular officers are in position to assist in obtaining wider dissemination of this information to travelers by distributing the leaflet to persons destined to the United States when the opportunity arises in connection with the issuance of visas and other travel documents. It is understood that supplies of the leaflet have been placed in a number of foreign stations and arrangements will be made to furnish a supply to stations that do not now have one. Any assistance that can be rendered in this regard will be greatly appreciated by the Department of Agriculture.

DULLES.

Form EQ-122
(Revised June 1, 1940)

VESSEL .....

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

BAGGAGE DECLARATION

Name of passenger ..... Stateroom No. .....
(Print or type)

All fruits (including coffee berries), vegetables, nuts, plants, and seeds in the natural or raw state in the possession of the passenger must be declared hereon.

BAGGAGE	NUMBER OF PIECES	HAWAIIAN GROWN MATERIAL	FOREIGN GROWN MATERIAL
Trunks			
Handbags			
Cases			
Other packages			
TOTAL			

I (we), the undersigned, hereby declare that I (we) have read the warning notice on the reverse side of this form and that all fruits (including coffee berries), vegetables, nuts, plants, and seeds in the natural or raw state in my (our) possession, or in the possession of dependent minors whose names are listed below, are entered on this declaration in the space provided above.

Declared this ..... day of ....., 19....

Each adult must sign declaration showing residence.

Parents or guardians should include baggage of minor children or wards in their own declarations; joint declaration by husband and wife must be signed by both.

(Signature) .....
(Individual, parent, husband, or guardian)

Address .....
(Street and number)

.....
(City and State)

(Signature of wife) .....
(For joint declaration)

List of minor dependents, with ages.

..... Age .....

..... Age .....

..... Age .....

Witness:

.....
Purser of Steamship.

All baggage from Hawaii must be opened and submitted for inspection upon arrival at port of debarkation on the mainland of the United States.

(READ WARNING NOTICE ON REVERSE SIDE)

13—10620-C

UNITED STATES DEPARTMENT OF AGRICULTURE

WARNING TO PASSENGERS AND CREW

PENALTY AGAINST UNAUTHORIZED MOVEMENT OF PLANTS AND PLANT PRODUCTS FROM THE TERRITORY OF HAWAII TO THE CONTINENTAL UNITED STATES

Attention of all passengers and members of the crew of this vessel or aircraft is called to the fact that, under authority of the Plant Quarantine Act of August 20, 1912 (37 Stat., 315), as amended, the Secretary of Agriculture has issued quarantine orders and regulations prohibiting and restricting the movement of certain classes of plants and plant products from the Territory of Hawaii to the mainland of the United States. The following is a partial summary of these regulations:

ARTICLES PROHIBITED ENTRY FROM HAWAII

The following articles are prohibited entry into the mainland of the United States from the Territory of Hawaii by the regulations above referred to:

All fruits and vegetables except certain root crops and leafy vegetables.

Coffee berries and all seeds and nuts when surrounded by fleshy or pulpy covering.

Cottonseed, seed cotton, cottonseed hulls, and except under permit issued by the Secretary of Agriculture, ginned cotton, cotton waste, and cottonseed products.

Sugarcane and cuttings thereof.

Sweetpotatoes, cuttings, and plants thereof.

Banana plants. Citrus plants and parts thereof. Mango seeds. Rice straw.

All other plants unless free from sand, soil, or earth.

Gardenia and Mauna loa blooms or leis made of such blooms.

All prohibited fruits and vegetables, including coffee berries and other pulp-covered seeds, must be entirely consumed or removed from this vessel before it reaches the territorial waters of any State, Territory, or District of the United States other than Hawaii. No such material may be taken aboard aircraft.

ARTICLES PERMITTED ENTRY FROM HAWAII

In passengers' baggage or in the possession of crew members, small lots of mature coconuts, and certain approved root crops and leafy vegetables will be admitted to the mainland of the United States, subject to inspection for pests. Case lots of these permitted fruits and vegetables, whether shipped as cargo or carried as passengers' baggage, must be inspected in Hawaii prior to lading, by an inspector of the United States Department of Agriculture, and must be accompanied by a certificate issued by such inspector.

FOREIGN PLANTS AND PLANT PRODUCTS

Under authority of the Plant Quarantine Act, the Secretary of Agriculture has also promulgated quarantines and regulations prohibiting or restricting the movement of certain classes of plants and plant products from foreign countries into and through the United States. All plants and plant products of foreign origin, including fruits, vegetables, nuts, plants, cuttings, buds, bulbs, seeds, cottonseed, and cotton in any form, must be listed on the reverse hereof under the heading "Foreign Grown Material."

PENALTIES

Any person who transports from the Territory of Hawaii or from foreign countries, into any State, Territory, or District of the United States, any fruits, vegetables, plants, or plant products in violation of the quarantines and regulations promulgated under authority of the Plant Quarantine Act will be subject to punishment by a fine not exceeding $500, or by imprisonment not exceeding 1 year, or both such fine and imprisonment, in the discretion of the court.

EN GARDE AGAINST ALIEN PLANT PESTS

Transient field workers cross the border from Mexico to Texas cotton country with their few possessions in pick sacks. These sacks also contain remains of seed cotton infested with the destructive pink bollworm, and mangoes and other fruit, hosts to the Mexican fruitfly. A ship docking at Mobile has in its stores rice from India infested with the Khapra beetle, the world's worst stored-grain pest. In the customs line on a New York pier the trunk of a passenger from Spain en route to California yield a carton of fresh fruit containing larvae of the Mediterranean fruitfly, a continuing threat to our vital citrus industry. From England comes a shipment of small cars, their underparts caked with soil contaminated with cysts of the golden nematode, a tiny root pest highly destructive to potatoes and tomatoes.

Muliply these incidents a thousandfold and you have some idea of how big and complex a job it is to keep plant-pest immigrants out of this country—the job that faces USDA's Plant Quarantine Branch.

Highly trained ARS inspectors are stationed at border, sea, and air ports to carry out provisions of the plant-quarantine laws designed to protect our food and plant resources. These inspectors check airplanes, steamships, trains, and automobiles, and examine cargo, stores, baggage, and mail for plant materials and foods that might contain dangerous plant-pest stowaways.

During the past year, plant-quarantine inspectors intercepted some 17,500 lots of destructive pests, 11,600 insects, and 5,900 diseases from throughout the world. In this same year they examined 54,700 vessels and 101,000 planes from overseas, as well as 17 million motor vehicles, 101,000 freight cars, and 2,200 pullmans and coaches arriving from Mexico. Often unusual traffic loads must be met. For example, last year at one airport alone (Idlewild, N. Y.) members of the plant quarantine inspection staff cleared an average of 50 transatlantic planes daily during the peak month of July.

Inspectors must not only recognize insects and diseases in known plant sources but also be on the alert for the unexpected—even the unknown. They frequently discover new species of pests and detect pests from countries in which they were not previously reported.

Commercial imports of plants and plant materials are relatively simple for inspectors to control. Much of this material is certified by the country of origin as meeting sanitary growing and packing conditions. Nevertheless, inspectors examine such shipments to assure that they are free from pests and that no contaminating soil or prohibited packing material or commodities are present. Fumigation with gas or treatment with heat or cold, as a condition of entry, are other safeguards used for certain types of plant material and produce. Inspections and clearance of bulbs at the point of origin in Holland, Belgium, and France continues to prove an effective way of getting cleaner and healthier bulbs to our gardeners at less inspection cost to taxpayers.

Detecting unauthorized arrivals of plants and plant materials—those that may be brought in with the baggage or passengers or crew, or in shipments of gifts by mail or otherwise—often taxes the ingenuity of inspectors. Coming from gardens and farms of people all over the world, such material is usually grown and harvested with no suspicion that it may harbor harmful pests. Sometimes devious ways are used to get restricted material into this country without inspection. Customs inspectors cooperate with quarantine inspectors in helping to keep out such contraband plant materials and food.

Destructive plant pests could slip in with stores and furnishings of ships and planes. These are closely checked. Movement of military equipment and materials from overseas is subject to plant-quarantine inspection, since it too may provide a means of plant-pest entry.

As fast transport shrinks distances between countries, and as foreign trade and travel expand, the danger of entry of destructive plant pests increases. Without the protection of plant-quarantine inspection, our country's losses from plant pests—now running over $3 billion annually—would be substantially greater. (Reprinted from ACCO Press, November, 1956.)

QUARANTINE INSPECTION AT POINTS OF EMBARKATION

Mr. MARSHALL. You will recall also, Dr. Clarkson, that we had some conversation with you concerning the inspection at points of embarkation. Did you tell us what the results have been of that discussion with you?

Dr. CLARKSON. Yes, sir. The statement covers that point also.

We have discussed this with the Customs Service, and as the committee will recognize, we can accomplish such a change only insofar as the Bureau of Customs is able to do so, because we must work with them. If Customs should institute this service abroad, we would have no choice but to follow with them.

They have done quite a lot of work with steamship and airlines and with foreign governments in an effort to accomplish something along this line. A few years back, they made a very concerted effort to accomplish this in Mexico City for airlines coming to this country. But it was not possible to accomplish this. There were many practical difficulties that arose with regard to the relationships with the foreign government, with the application of United States laws on foreign soil, which seemed to prevent it.

PENALTIES FOR QUARANTINE VIOLATIONS

At the same time, the committee asked us to consider the imposition of penalties against those who violate agricultural quarantines.

We have, and the Customs have, been active in that regard, but I should like to point out that we impose penalties of that kind against the willful violator. Most of these people are thoughtless violators. Even though they have read customs hints, have seen the sign, have been told, they are the thoughtless family-type of traveler that feel that somehow the product that they are bringing surely does not come within these quarantines.

We do not feel that we should impose criminal penalties against such people.

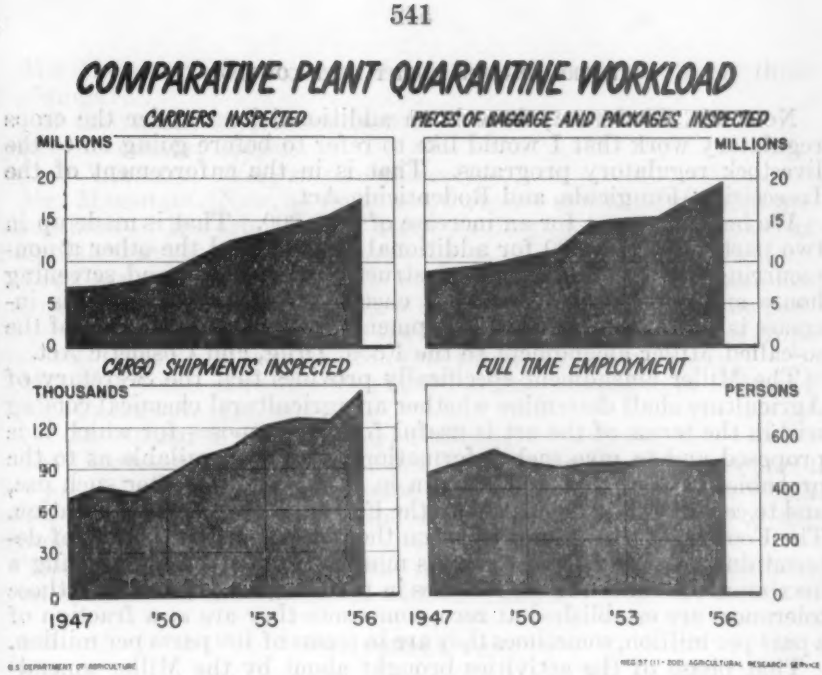
Mr. MARSHALL. It is very important that we do what we can to keep these pests from entering this country. Do you have any recommendation as to how you might do some streamlining to retain the effectiveness and still make the program of the checking of baggage more perfect?

INCREASE IN WORKLOAD

Dr. CLARKSON. There are a number of studies underway by the Customs Service to facilitate the handling of baggage. As the customs handling can be facilitated, our handling is likewise facilitated.

I think that some real improvements will be made in the larger ports through the mechanization of the physical handling of the baggage. That will allow us to better keep up with the further increase in traveling.

But as these charts will show, Mr. Chairman, we have fallen far behind in our efforts to keep up with the volume of work which has been thrust upon us over the past several years. (The charts referred to follow:)



Dr. CLARKSON. The chart on the upper left shows in terms of number of carriers, which includes planes, ships, railroad cars and automobiles, an increase from around 7 million per year to 17.5 million. That increase has been in all categories.

Of course, a lot of the numbers, as you will recognize, come from automobile transport across the Mexican border; but every other category is increasing also.

The chart on the upper right shows the increase in pieces of baggage and packages which must be handled, from just under 9 million in 1947 to just under 20 million in 1956.

In like manner, on the lower left, the cargo shipments—and that includes shipments of meats, shipments of bulbs, shipments of nursery stock, shipments of all manner of things which are subject to quarantine and which must be inspected—have increased during the same period of time from 70,000 to 147,000.

During that same period of time, and through making the utmost of our arrangements with customs and trying to get the most out of the service of our personnel, the personnel has remained not quite static, the figures have increased from 466 to about 500. And we are asking in this budget, Mr. Chairman, for an additional 60 men who would be specialists in matters of plant quarantine to aid in screening and in properly handling the contraband material which we find coming through our ports.

I have extra copies of that statement I referred to, if the committee would like them.

Mr. MARSHALL. Yes.

Mr. VURSELL. What statements did you refer to?

Dr. CLARKSON. The statement on the evaluation of and measures which would prevent passengers from bringing contraband agricultural materials into this country.

INCREASES FOR PLANT PEST CONTROL

Now, Mr. Chairman, there is an additional item under the crops regulatory work that I would like to refer to before going on to the livestock regulatory programs. That is in the enforcement of the Insecticide, Fungicide, and Rodenticide Act.

We have a request for an increase of $150,000. That is made up in two parts; one $120,000 for additional services, and the other a nonrecurring item of $30,000 to construct a greenhouse and screening house and storage for dangerous chemicals at Beltsville. This increase is made necessary by developments following the passage of the so-called Miller amendment to the Food, Drug, and Cosmetic Act.

The Miller amendment specifically provides that the Secretary of Agriculture shall determine whether an agricultural chemical coming within the terms of the act is useful for the purposes for which it is proposed and to give such information as he has available as to the probable residues that may remain in feed and food after such use, and to certify that information to the Food and Drug Administration. The Food and Drug Administration then has the responsibility of determining what of these chemicals must be limited by establishing a maximum tolerance for the residues in food or feed. Sometimes those tolerances are established at zero, sometimes they are at a fraction of a part per million, sometimes they are in terms of 100 parts per million.

That phase of the activities brought about by the Miller amendment we are able to handle and are handling. It has caused a great deal of work, but the committee approved our request 2 years ago for an additional amount of funds to handle that specific job.

But now we find that the tolerances which the Food and Drug Administration feel they must apply are considerably lower than had been anticipated. So we find that thousands of agricultural chemicals which we had registered under the Insecticide, Fungicide and Rodenticide Act, and had approved for labeling, which includes recommendations for use, in many instances may produce residues which are above the tolerances now established by the Food and Drug Administration. In addition, there are many chemicals registered for which tolerances or exemptions are still to be established.

So we find that, beyond what we had anticipated, we have a very large job of screening all of the registrations which number around 20,000 and some 4,000 to 7,000 registrations each year, and advising with the industry on the revamping of their labeling and their proposals, and also a very extensive job of advising the State agricultural experimental stations and extension services and the industry groups who must be prepared to recommend certain practices. No one wants to recommend a practice which may be effective on the one hand, but which may result in a residue above the tolerance allowed by the Food and Drug Administration.

GREENHOUSE AND STORAGE BUILDING FOR TESTING WORK

The construction at Beltsville is necessary to provide a place where we can test a number of these chemicals which are registered. We cannot test them in conjunction with our regular experimental work because we must have absolute control in order not to interfere with the research work.

Mr. MARSHALL. What was the estimated cost of these three buildings?

Dr. CLARKSON. $30,000 for the 3.

Mr. MARSHALL. $30,000.

Dr. CLARKSON. Very small construction.

Mr. MARSHALL. Now, as you know, there are new buildings that are being built at the arboretum. Those buidings may release space at Beltsville that you could use.

Dr. CLARKSON. We have made a review of that, and we have not been able to so find. But if there is space released, that would be part of the space which is occupied by the field crops and horticultural crops research people, and we should not do this testing work there.

Mr. MARSHALL. You feel that these buildings ought to be isolated?

Dr. CLARKSON. Yes, sir.

Mr. MARSHALL. From the other buildings?

Dr. CLARKSON. Yes, sir. The buildings we now have are isolated. We are doing some of this in some very makeshift buildings, which affect the quality of the work and also is dangerous in terms of the chemicals that we are using.

The next item that I would like to comment on is our tuberculosis eradication work in cooperation with the States.

CONTINGENCY FUND

Mr. MARSHALL. Probably before you do that, you might discuss the contingency fund for insect control this past year and how you expect to use it in 1958.

Dr. CLARKSON. The contingency fund, during the past year, grew to a very large size—$6,900,000 in total, due to the number of emergency items, including the Mediterranean fruitfly, the burrowing nematode work, European chafer, grasshopper, Mormon cricket, Khapra beetle, Mexican fruitfly and soybean cyst nematode.

It had come to the point that the original purpose of the contingency fund was largely lost, in that the dollars that were provided were almost entirely marked for specific projects before the year began.

And so it seemed best to provide that each item that we could reasonably anticipate need for during the coming year should be budgeted and considered on its individual merits by the committee and by the Congress, leaving the contingency fund in the amount of $1 million to deal with unforeseen outbreaks or unforeseen spread of some of the very dangerous pests that we are otherwise working with.

Now, that would allow us to take care of an unexpected spread of the Mediterranean fruitfly if it should somehow jump into Georgia.

In like manner with the Khapra beetle, if we should find infestation in the St. Paul area, for example, where we have made many, many inspections as to whether it exists there.

And we believe that with the million dollars not being earmarked for specific purposes that it will tide us over emergencies in between sessions of Congress.

GYPSY MOTH

Mr. MARSHALL. Could you tell us at this point what the status is of the Gypsy moth or the control of that?

Dr. CLARKSON. Yes, sir. With the additional funds provided last year it was possible, with Federal and State action, to treat around

940,000 acres. The bulk of the treatment with Federal funds was done in the New York-New Jersey-Pennsylvania area. Our plans for this season are to cover all of the remaining area known to be infested in New Jersey and Pennsylvania and to get as much done as we can in the adjoining area of New York.

We are hopeful that we will have a total of 3 million acres treated this year, with State and Federal money. The committee instructed that we should endeavor to obtain equal funds from the States. The committee recognized, I am sure, that this would not be a matching procedure, State by State, because we must put our effort in the areas where it is needed to protect a good many other States.

And, as I said, in this case most of our work will be done in New York. The States have, thus far, increased the amount of money which they see in prospect to $2,224,000, and most of the legislatures are meeting this spring and have under consideration the urgent requests which we sent to them. The New York Legislature, I know, will be considering this matter, and we are hopeful that they may find it possible to increase their participation.

Mr. MARSHALL. What is the Federal expenditure in this past fiscal year on the gypsy moth?

Dr. CLARKSON. During the past fiscal year the Federal expenditure was $908,329. During that same time the States spent a total of $1,900,000. And for a good many years the States have been spending 2, 3, or 4 times as much as the Federal Government.

In 1957 the Department has $2,795,200, and the States, thus far, have $2,224,000 in prospect.

Mr. MARSHALL. Have you noticed any extension of the gypsy moth into other States outside of New Jersey and New York and Pennsylvania?

Dr. CLARKSON. No, sir. With the trapping last season and with our egg surveys, which are still going on, we have found some areas in those three States which, although in a general infested area, were extensions of the known infestation.

There has been a lot of trapping and scouting in adjoining States, and I should point out that this year, in addition to the funds which we have tabulated for the States, a good deal of trapping and scouting will be done in West Virginia, Virginia, Kentucky, and Ohio, with unknown expenditures at this time.

ANIMAL DISEASE AND PEST CONTROL

Mr. MARSHALL. We will proceed, then, Dr. Clarkson on the next item.

TUBERCULOSIS ERADICATION PROGRAM

Dr. CLARKSON. One of the most important projects in the animal disease and pest control and eradication work is the cooperation with the States in the eradication of tuberculosis in cattle. This project has been going on for a good many years.

The States and the Federal Government have, in the aggregate, spent well over $300 million. As a result, the entire Nation is in the status which we call modified—accredited, as the incidence of the disease has been brought to a very, very low level.

However, we have noticed a disturbing, though small, trend upward in the incidence of tuberculosis of cattle. Last year it was fifteen one-

hundredths of 1 percent. The year before it was twelve one-hundredths of 1 percent.

In other words, last year we found 14,000 diseased cattle out of 9 million tested. That does not sound like very many, but the trend is the thing that we are concerned about.

We are spending at the rate of slightly over $2 million annually, and the States are putting in slightly more than twice that amount. This is to continue the testing, to keep the level down, and to try to eliminate the last infection.

We have emphasized, during the past several years, the advantages of accurate followup of diseased cattle that are found by our Federal meat inspectors. We strive to learn the origin of an animal found to be diseased with tuberculosis and then to go back to the farm or ranch or, as in many cases, to many farms and ranches where that animal has been, and test animals there. And whenever we do that, we find a lot of diseased animals for a little effort expended.

This chart shows just one of those cases. We found a bull to be diseased with tuberculosis at a plant in Maryland. We followed it back through several shipping points to the ranch of origin in West Virginia. The animals on this ranch were tested and reactors were found.

Then a further followup was made; back to ranches, farms and shipping points from which animals had come to that ranch, and to which animals had gone from it. They had gone into 7 States, and 25 herds. Reactors were found in seven of those herds. They all happened to be in West Virginia and Tennessee. The other 18 herds were negative. We found 41 diseased cattle through these tests.

We are often hampered in this type of followup through lack of information as to where the animals originated and where they have been. We make use of brands or sale tags, of ear tags, of tattoos, of every device that we can, and we are trying in every way we know how to step up this activity, which will get us more for the dollar spent in attempting to keep down and further reduce the level of tuberculosis.

Mr. MARSHALL. We will insert pages 64, 65 and 66 and the accompanying table, relating to expanded brucellosis program, in the record.

(The material is as follows:)

EXPANDED BRUCELLOSIS PROGRAM

(Conducted with funds transferred from Commodity Credit Corporation)

Obligations:	
1956	$16,236,222
1957 (estimated)	20,000,000
1958 (estimated)	20,000,000

LEGISLATIVE AUTHORIZATION

Under section 204 (e) of title II of the Agricultural Act of 1954, Public Law 690, approved August 28, 1954, provision was made for the transfer of not to exceed $15 million annually for a period of 2 years from funds available to the Commodity Credit Corporation to the item "Plant and animal disease and pest control" of the appropriation "Salaries and expenses, Agricultural Research Service," for the purpose of accelerating the brucellosis eradication program. This section was further amended by Public Law 465, approved April 2, 1956, to increase the amount for the fiscal year 1956 to $17 million and the amount for each of the fiscal years 1957 and 1958 to $20 million.

PROGRAM OPERATIONS

Considerable progress was made in all fields of operation during fiscal year 1956. Most of the testing service required was provided by practicing veterinarians employed on a fee basis. While Federal indemnities were paid in most States at a rate not exceeding $25 for grade animals and $50 for purebred animals, it was held below this level, or eliminated entirely, in a few States. Although the majority of the States also made indemnity payments to owners for reacting cattle, there were eight States in which neither State nor Federal indemnity was paid. There was an encouraging decrease in the percentage of reactors disclosed in cattle tested and an increase in the percentage of reactors slaughtered. Detailed information concerning the 1956 program, including tables and charts, is contained in the "Status of program" section of these explanatory notes.

COST OF PROGRAM

The following table compares actual State and Federal expenditures for fiscal years 1955 and 1956 with estimated State and Federal expenses for fiscal years 1957 and 1958.

	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated)
(a) Federal cost:				
Operating funds	$10,718,791	$14,125,249	$18,078,618	$17,639,300
Indemnities	4,614,606	6,060,351	5,882,547	6,500,000
Total	15,333,397	20,185,600	23,961,165	24,139,300
Less amount provided under "Salaries and expenses, ARS"	−3,774,700	−3,961,165	−3,961,165	−4,139,300
Cost of accelerated program	11,558,697	16,224,435	20,000,000	20,000,000
(b) Funds provided by cooperating States and counties:				
Operating funds	9,497,240	11,595,852	12,159,444	----------
Indemnities	1,736,491	4,134,627	3,682,118	----------
Total	11,233,731	15,730,479	15,841,562	----------

The estimated distribution of the funds by States for fiscal year 1957 is shown in the table at the end of this statement.

An appropriation to reimburse Commodity Credit Corporation for the costs of the 1956 accelerated program is being requested as a part of the 1958 budget estimates. Appropriations to reimburse the Corporation for the cost of the 1957 and 1958 programs will be requested in future years.

OUTLOOK FOR CURRENT YEAR

The data listed below show cattle blood tested, reactors found, and calves vaccinated during fiscal years 1955 and 1956, respectively, and estimates for the fiscal year 1957.

	1955	1956	1957 (estimated)
Cattle blood tested	14,186,241	16,754,195	17,576,400
Reactors found	365,247	366,524	394,600
Calves vaccinated	4,381,397	4,772,535	5,606,700

There has been an encouraging increase in the amount of area work leading to certification in the various States. Most of the States are doing everything possible to encourage owners to participate in area programs so that eradication gains may be held and further expanded. The fact that 89 percent of the reactors found during the fiscal year 1956 were reported as slaughtered indicates that owners are becoming more convinced that it is not profitable to permit brucellosis to remain in their herds.

The five-member committee of consultants appointed by the Secretary of Agriculture to review the accelerated brucellosis eradication program submitted its recommendations on March 28, 1956. Their report indicated that, in general, the present program was working satisfactorily and had the support of the groups contacted. The committee held six regional meetings which were open to the public. During June, 1956, the States of Washington and Wisconsin achieved modified certified brucellosis-free status; Maine, New Hampshire, and North Carolina had already achieved such status. Practically all of the States have set 1960 as a target date for becoming modified certified brucellosis-free. The recommendations of the committee for strengthening the program are being put into effect as rapidly as possible.

A Brucellosis Planning Conference was held in Evanston, Ill., on November 26 and 27, 1956. At this meeting, a critical review was made of brucellosis program operations in all States. Based on these discussions and projected goals, it is anticipated that by the end of fiscal year 1957, there will be a total of 9 entire States and Puerto Rico and 400 additional counties qualified as modified certified brucellosis-free areas.

OUTLOOK FOR FISCAL YEAR 1958

Major program emphasis during fiscal year 1958 will be placed on expansion of complete area programs which require that all herds in a given area be under one of the three approved plans.

It is expected that the brucellosis ring test will be used more widely than ever before as a means of screening dairy herds for evidence of brucellosis. Increased acceptance of this procedure by the cooperating States will accelerate advancements toward complete control and eventual eradication of brucellosis throughout the country.

Efforts are being directed toward developing a method for screen testing range herds. It is anticipated that during fiscal year 1958, such a method will be developed and approved as an official procedure for use in establishing and maintaining certifications of range and semirange areas. The screen testing would be accomplished by a system of blood testing dry and cull cows at such concentration points as slaughtering establishments, stockyards, and auction markets to determine the brucellosis status of range herds. This should permit more rapid progress with the brucellosis campaign in range herds at lower cost and less inconvenience to the owner.

In the case of newly certified States, there will be a decrease in program operations. Because of increased work in other States, however, the overall program will continue at about the same level as in fiscal year 1957.

Brucellosis Eradication—Fiscal year 1957 as of Nov. 30, 1956

State	Federal			State		
	Indemnity payments	Operating cost	Total	Indemnity payments	Operating cost	Total
Alabama	$113,000	$429,100	$542,100		$100,000	$100,000
Arizona	6,000	86,000	92,000	$10,000	37,450	47,450
Arkansas	189,500	388,900	578,400		60,000	60,000
California		255,500	255,500		367,370	367,370
Colorado	45,000	188,400	233,400		33,134	33,134
Connecticut		79,200	79,200		149,540	149,540
Delaware	12,800	38,000	50,800	18,000	37,160	55,160
District of Columbia		1,091,965	1,091,965			
Florida	126,000	377,400	503,400	87,531	182,755	270,286
Georgia	165,500	568,700	734,200	155,520	256,567	412,087
Idaho	76,300	293,100	369,400	1,000	100,500	101,500
Illinois	259,300	167,800	427,100		1,190,034	1,190,034
Indiana	380,300	543,600	923,900		661,124	661,124
Iowa	250,000	732,500	982,500	250,000	544,000	794,000
Kansas		402,500	402,500		190,000	190,000
Kentucky	160,000	200,500	360,500		350,000	350,000
Louisiana	649,100	536,000	1,185,100	858,000	559,779	1,417,779
Maine	19,000	66,800	85,800	21,000	90,000	111,000
Maryland	100,000	506,700	606,700	152,000	145,035	297,035
Massachusetts	12,000	206,000	218,000	20,000	103,000	123,000
Michigan	276,100	557,100	833,200	5,000	340,228	345,228
Minnesota	177,000	1,080,300	1,257,300	97,000	547,000	644,000
Mississippi	202,500	396,500	599,000		131,500	131,500
Missouri	325,200	949,000	1,274,200	257,180	455,670	712,850
Montana		448,000	448,000		250,000	250,000
Nebraska	167,500	866,100	1,033,600	75,000	235,000	310,000
Nevada	22,000	125,400	147,400		30,900	30,960
New Hampshire	5,000	49,300	54,300	13,000	74,500	87,500
New Jersey	65,900	126,700	192,600	178,000	119,405	297,405
New Mexico	11,600	122,700	134,300	12,000	28,000	40,000
New York		219,400	219,400		1,105,296	1,105,296
North Carolina	32,000	210,100	242,100	15,000	112,482	127,482
North Dakota	211,000	209,500	420,500		180,000	180,000
Ohio		461,500	461,500		335,200	335,200
Oklahoma	20,000	428,100	448,100		80,500	80,500
Oregon	130,000	338,000	468,000	72,000	163,500	235,500
Pennsylvania	450,000	613,700	1,063,700	650,000	650,000	1,300,000
Rhode Island	1,700	29,900	31,600	7,500	27,000	34,500
South Carolina	15,000	260,000	275,000	14,000	106,405	120,405
South Dakota	76,000	297,300	373,300	50,000	50,000	100,000
Tennessee	343,600	507,600	851,200		221,860	221,860
Texas		112,200	112,200		60,000	60,000
Utah	41,000	272,900	313,900		96,000	96,000
Vermont	100,000	189,700	289,700	70,000	50,000	120,000
Virginia	104,500	321,100	425,600		315,290	315,290
Washington	9,000	369,800	378,800	86,250	96,750	183,000
West Virginia	10,000	153,100	163,100	8,000	92,850	100,850
Wisconsin	459,147	741,253	1,200,400	453,137	917,790	1,370,927
Wyoming	12,000	220,300	232,300		18,200	18,200
Puerto Rico	51,000	243,400	294,400	46,000	110,670	156,670
Total	5,882,547	18,078,618	23,961,165	3,682,118	12,159,444	15,841,562

BRUCELLOSIS ERADICATION

Dr. CLARKSON. The largest animal disease program is the one on brucellosis.

Congress, during the past 3 years, has provided greatly augmented funds extending through this fiscal year and the next one. The funds provided are on the order of $24 million annually. The States also have augmented their funds, so that there is available this year about $40 million of State and Federal funds for the eradication of brucellosis.

The chart on the left shows the increase in numbers of cattle blood tested from 1953 to 1956, from 7.9 million to 16.8 million. That does not tell the entire story of the increase, as we have during these years greatly increased the use of the brucellosis ring test, which is applied to milk, and gives us a screen of a great many dairy herds, thus allow-

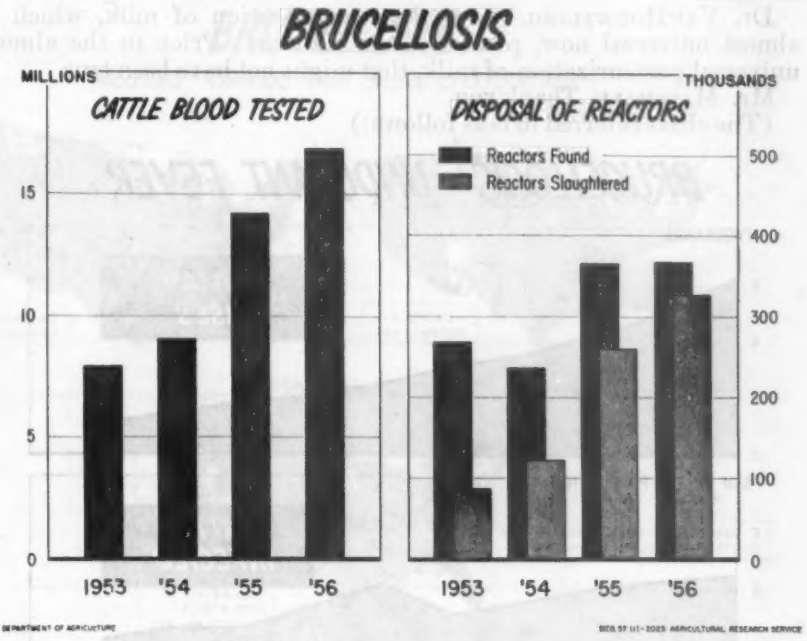
ing for concentrating our blood testing on herds that are suspicious to the brucellosis ring test.

The chart on the right shows what has happened in regard to the disposal of reactors. We had to work rather gradually in heavily infested States for a period of time with plans which did not immediately eliminate the diseased cattle but provided for their gradual elimination.

With the increased funds and the availability, especially, of funds for the payments of indemnities to the owners, we have found that the reactors have been much more rapidly eliminated from the farms.

The chart shows that in 1953, 85,836 of 268,348 reactors were promptly eliminated, and in 1956, 327,034 of 366,524 found were promptly eliminated. The retention of reactors is in areas where it has not been possible yet to swing into what we call plan A, which is a test and slaughter program.

(The chart referred to is as follows:)



Dr. CLARKSON. The next chart, Mr. Chairman, shows what has happened since 1947 in the reduction in the incidence of brucellosis in cattle tested, and at the same time a reduction in the incidence of brucellosis, or undulant fever, in man.

Cases of this disease in man come almost entirely from contact either with cattle or with swine, or with the milk of infected cattle. These figures on human disease, come from the United States Public Health Service.

We know that factors have entered in other than the elimination of infected cattle, but we firmly believe that this reduction in the incidence of the disease in man could not have been effected without the reduction in the incidence of the disease in cattle. And we think that is a very important accomplishment.

Mr. MARSHALL. Has any estimate ever been made as to what percentage of the infection, comes from contact with the animal or from the drinking of raw milk? Do you know that, Dr. Clarkson?

Dr. CLARKSON. Dr. VanHouweling.

INCIDENCE OF BRUCELLOSIS IN CATTLE AND IN HUMANS

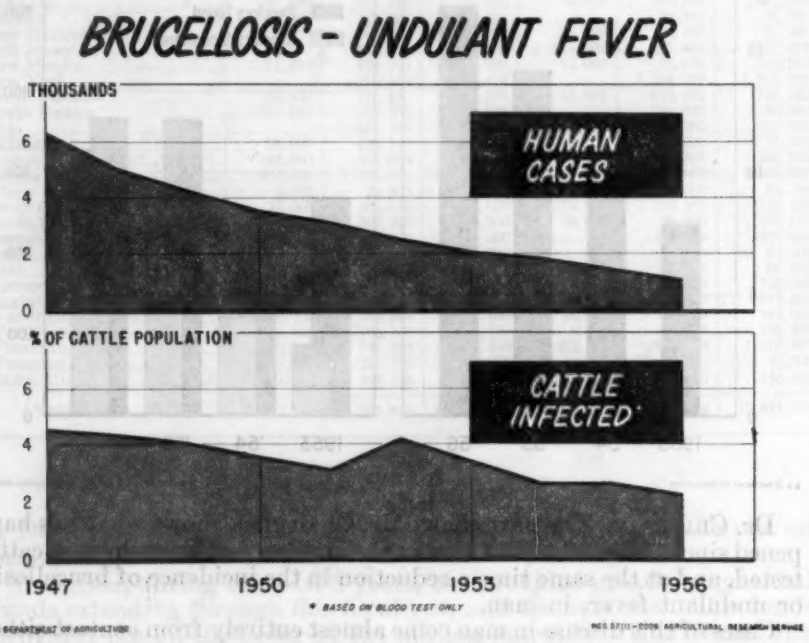
Dr. VANHOUWELING. The incidence of brucellosis in human beings varies with the incidence in the disease in the animals they contact most frequently. I think in Iowa it would indicate that most of the brucellosis, or not most but a large percentage, may come from contact with infected hogs. In your home State, work done by Dr. Spink and others, indicates that it is more frequently from contact with cattle.

Mr. MARSHALL. Am I right in that a larger percentage by far comes from the contact with the animal, rather than from the drinking of raw milk?

Dr. VANHOUWELING. Since the pasteurization of milk, which is almost universal now, probably, that is true. Prior to the almost universal pasteurization of milk, that might not have been true.

Mr. MARSHALL. Thank you.

(The chart referred to is as follows:)



Dr. CLARKSON. The next chart shows the accomplishments of the brucellosis eradication work during the past 2½ years in terms of various counties and States reaching the modified-certified free status.

That does not mean that brucellosis is eliminated, but it does mean that it has been brought to a very low level.

In September 1954, there were 3 States and a total of 341 counties that had reached this status. In December of 1956 there were 5 States and a total of 589 counties. Since that time, another State has

been added to the list, so that we now have the States of Washington, Wisconsin, Maine, New Hampshire, North Carolina, and Delaware.

The goal of the program in terms of reaching the modified-certified status for June 30, 1957, is a total of 8 States and a total of 400 additional counties.

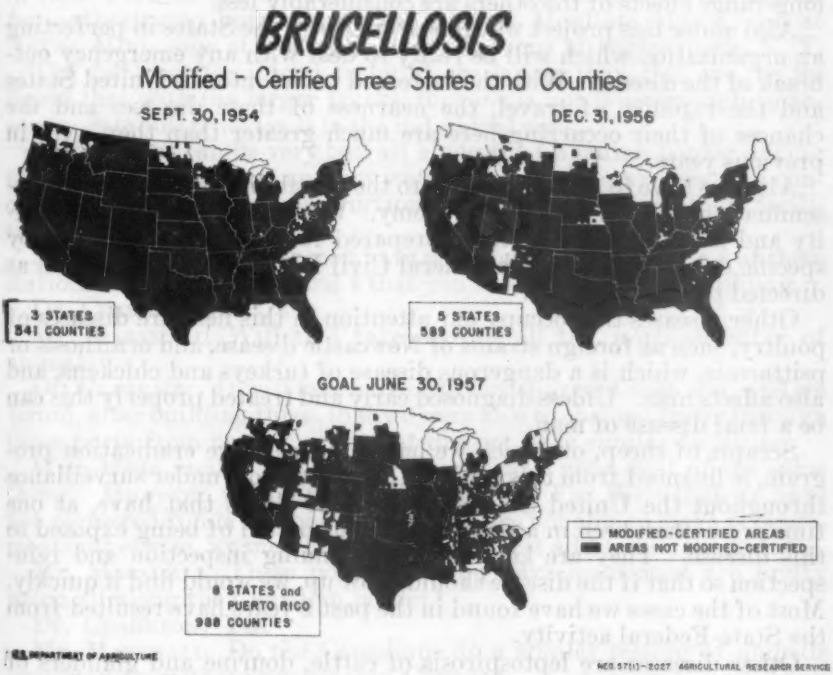
That goal was arrived at through the joint planning of State and Federal veterinarians. They revise their plans at the beginning of each year and then make a further revision in the middle of the year so as to get the most out of the State and Federal efforts.

Mr. MARSHALL. The progressive States are the ones that are white on the chart, like Washington and Minnesota, are they not?

Dr. CLARKSON. They have certainly accomplished more to date on this disease than any others.

There are a total of 3,148 counties in the United States, all of which, of course, are not yet involved.

(The chart referred to is as follows:)



Mr. VURSELL. What is the current percentage of infection, 2.4?

Dr. CLARKSON. Slightly over 2 percent.

Mr. VURSELL. I see they are making a big drive now in Illinois. I was reading in the local press on brucellosis.

Dr. CLARKSON. Yes, there is a great effort being expended in Illinois.

Mr. VURSELL. And they are going right after it.

Dr. CLARKSON. Well, most of the States are stepping up their effort very considerably. It is a long, hard job, but well worth the effort.

INCREASE TO STRENGTHEN DIAGNOSIS, CONTROL AND ERADICATION OF MISCELLANEOUS ANIMAL DISEASES

The next item I would like to refer to—and this one is related to a requested increase of $240,000 for the coming fiscal year—covers our cooperation with the States in the diagnosis, control and eradication of miscellaneous diseases.

Our No. 1 effort in this regard has been for some time, and continues to be, an alertness to determine whether disease conditions of farm livestock are foot-and-mouth disease or one of the several other diseases that closely resemble it.

This picture shows 3 cattle, 1 infected with foot-and-mouth disease, 1 infected with vesicular stomatitis, and 1 infected with "muzzle disease," which is one of the forms of the mucosal disease complex. They illustrate that the outward symptoms are not always different. The long-range effects of foot-and-mouth disease are disastrous. The long-range effects of the others are considerably less.

Also under this project we are working with the States in perfecting an organization which will be ready to deal with any emergency outbreak of the disease. With the increased travel into the United States and the rapidity of travel, the nearness of these diseases and the chances of their occurring here are much greater than they were in previous years.

Also, we have to always be alert to the possibility of intentional dissemination of the disease by an enemy. We are delegated the authority and the responsibility to be prepared for such an eventuality by specific delegation from the Federal Civil Defense Administration as directed by the President.

Other diseases that occupy our attention in this field are diseases of poultry, such as foreign strains of Newcastle disease, and ornithosis or psittacosis, which is a dangerous disease of turkeys and chickens, and also affects man. Unless diagnosed early and treated properly this can be a fatal disease of man.

Scrapie of sheep, on which we have a cooperative eradication program, is financed from this project. We have now under surveillance throughout the United States almost 2,000 flocks that have, at one time or another, been in a position to be suspected of being exposed to this disease. They are kept under continuing inspection and reinspection so that if the disease should show up, we would find it quickly. Most of the cases we have found in the past 2 years have resulted from the State-Federal activity.

Other diseases are leptospirosis of cattle, dourine and glanders of horses; hog cholera is attracting a great deal of attention due to the efforts of the States to limit the distribution of hog cholera virus which may be one means of spread. Under our project on miscellaneous diseases, we also have several employees who work in cooperation with the commission in Mexico to investigate any suspected cases of foot-and-mouth disease and to be ready for any eventuality.

The next chart shows an animal diseased with anaplasmosis, which has spread in a large part of the Southern United States and has, in the past few years, become of increasing concern in the Northwestern and in the Western States generally.

The picture in the upper left-hand corner is merely a blowup of one of the slides of the organism causing this disease called Anaplasma

marginale. They are the little black dots shown in the red blood cells. When they enter the red cells, they destroy the cells and thus destroy the animal's ability to sustain life.

FACILITIES FOR LIVESTOCK INSPECTION AT PORTS OF ENTRY

The next item is related to our import quarantine work. For a number of years the handling of livestock imported from Canada has been undergoing a change, in that it used to come mainly by rail through a few established centers. It is coming more and more by truck, and we find that there are no facilities for adequate, sanitary, and humane handling of the livestock for inspection. And coming by individual trucks, there is no way of placing responsibility on industry to erect these structures.

So a few years ago we requested and were given funds to build three of these structures. The one pictured here is at Lake Champlain in New York on the Canadian border. We have this year a request for authority to build four more, one at Houlton, Maine, one at Noyes, Minn., one at Portal, N. Dak., and one at Ogdensburg, N. Y.

The facilities we intend to build are larger than this one, as we found that with the larger trucks, this one is not large enough to accommodate full truckloads in the individual pens.

The weather can be very bad all along the Canadian border during the winter, so that heat and hot water for sanitary purposes, and concrete flooring and good construction are necessary to make these facilities adequate.

Mr. MARSHALL. Doctor, you have mentioned that you have 3 of these stations constructed now and 4 that you are contemplating building.

Dr. CLARKSON. Yes, sir.

Mr. MARSHALL. Will that take care of all the ports of entry of animals?

Dr. CLARKSON. It will take care of the most urgent ones now, and we found, after building three, that we were able to channel traffic through those ports from nearby ports that did not have similar facilities.

With these facilities, we think we can do a good deal of the same thing. However, there are some ports in the Far West that we have not requested funds for, but which, if we are not able to make arrangements otherwise, we may later have to request additional funds for.

Mr. MARSHALL. These ports that you have mentioned are pretty much all along the Canadian border?

Dr. CLARKSON. Yes.

Mr. MARSHALL. Do the Canadians do a similar testing of animals imported from this country into Canada?

Dr. CLARKSON. Yes, sir, they do. And they have stations at various points on their side of the border. They are not so situated as to suit our commerce and would not suit our purposes for inspection.

But they handle their problem in a like manner, with like facilities.

Mr. MARSHALL. Has there been any attempt to make cooperative arrangements with Canada from the standpoint of building facilities?

Dr. CLARKSON. No, there has not.

Mr. MARSHALL. There has not?

Dr. CLARKSON. No, we have examined their facilities from the standpoint of whether they would be adequate and suitably located and found them not to be.

But from the standpoint of our joining together to construct new facilities, we have made no move toward this. I would believe that it would not be very fruitful, because cattle and other livestock going to Canada do not seem to go through the same channels as the ones coming in this direction.

One of the places where there is a lot of traffic both ways is Buffalo, N. Y. There, facilities are available on both sides. Another is Detroit. Another is Huron, Mich., where facilities are available on both sides. But in these areas where we find a lot of stock coming this way, there does not seem to be the problem of stock going in the other direction.

Mr. MARSHALL. I am under the impression that the relationship between Canadian officials and American officials leaves very little to be desired. You have an excellent cooperation; do you not?

Dr. CLARKSON. We have very fine cooperation.

INSPECTION OF ESTABLISHMENTS PRODUCING VETERINARY BIOLOGICS

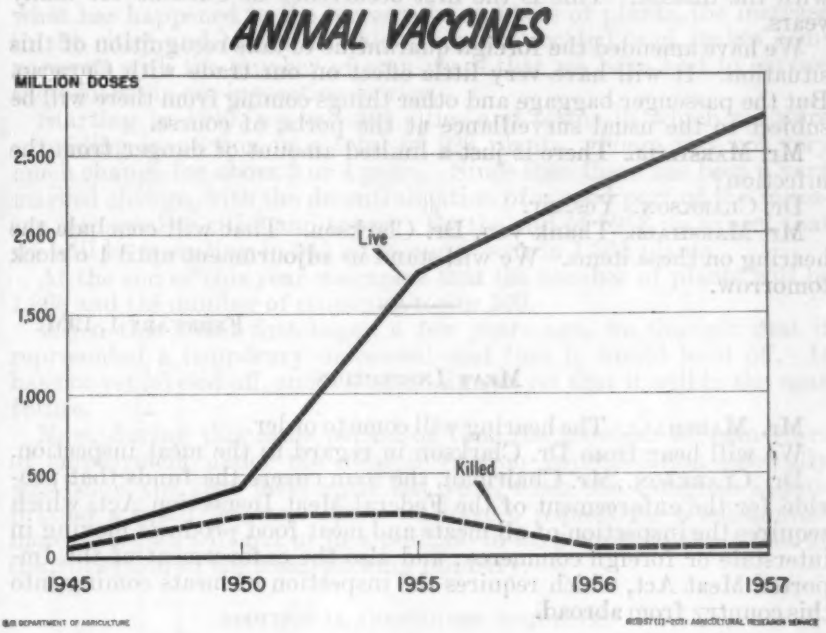
In carrying out our responsibilities under the Virus Serum Toxin Act, it is necessary that the Department license all establishments producing veterinary biologics that are moving interstate or to foreign countries.

Many years ago there was established a system of licensing and evaluation and a procedure for the acceptance of the individual products proposed to be produced. An inspection system was set up to see that the proposals were carried out and that contamination was avoided, along with a system of laboratory checking of the finished product, to determine that the products are useful, potent, and not contaminated.

Within the past few years there has been a revolution in the kinds of products produced for the protection of animals against disease. Before 1945 the bulk of the products were prepared from "killed" organisms and therefore not as subject to contamination and not subject to the same difficulties of testing for potency as the products that are made of "live" or modified "live" viruses. Since 1945, as shown by the following chart, the volume of "live" products has increased from 108 million to 2,775 million doses annually.

During that same time the volume of "killed" products has remained about constant at 50 million doses. We are proposing an increase of $204,000 to provide inspection control over these new products, and also to do more toward the testing of the final product.

(The chart referred to is as follows:)



Dr. CLARKSON. The loss of our laboratories here in Washington has very greatly hampered us in the testing of these products, and we will not be in position to do a full job of testing these biologics until the new laboratory is built in Ames.

Meanwhile, we have to do some testing, and we are able to get a small amount done through contractual arrangements with experiment stations, veterinary colleges, and the like.

AMES, IOWA, LABORATORY

Mr. MARSHALL. When the laboratory is built at Ames, will that be satisfactory to you for testing?

Dr. CLARKSON. The laboratory at Ames will be designed, among other things, to do a fully effective job of the testing of these veterinary biologics.

Mr. MARSHALL. The location at Ames will not handicap you?

Dr. CLARKSON. No, sir.

FOOT-AND-MOUTH DISEASE

Mr. MARSHALL. Well, we have been very much interested, of course, in this country in foot-and-mouth disease. I do not suppose there is any cattle disease more alarming.

Dr. CLARKSON. No, sir.

Mr. MARSHALL. Has there been a recent outbreak near Venezuela?

Dr. CLARKSON. Yes. There has been during this month an outbreak of foot-and-mouth disease on the Dutch island of Curacao, which is a small island off the northern coast of Venezuela. Venezuela and the other countries of South America have for many years been infected

with the disease. This is the first occurrence in Curacao for many years.

We have amended the foreign quarantine to take recognition of this situation. It will have very little effect on our trade with Curacao. But the passenger baggage and other things coming from there will be subject to the usual surveillance at the ports, of course.

Mr. MARSHALL. There is just a limited amount of danger from the infection?

Dr. CLARKSON. Yes, sir.

Mr. MARSHALL. Thank you, Dr. Clarkson. That will conclude the hearing on these items. We will stand in adjournment until 1 o'clock tomorrow.

FEBRUARY 1, 1957.

MEAT INSPECTION

Mr. MARSHALL. The hearing will come to order.

We will hear from Dr. Clarkson in regard to the meat inspection.

Dr. CLARKSON. Mr. Chairman, the item covers the funds that provide for the enforcement of the Federal Meat Inspection Act, which requires the inspection of all meats and meat food products moving in interstate or foreign commerce; and also the enforcement of the Imported Meat Act, which requires the inspection of meats coming into this country from abroad.

CHANGES IN MEAT PACKING INDUSTRY

There has been a marked change in this industry in the past few years. For nearly a hundred years, the meat packing in the United States has tended to concentrate in the large centers of the country with enormous slaughtering and processing facilities from which the product has been shipped throughout the Nation and throughout the world in our export trade.

Also, for all those years there was a heavy seasonal slaughtering. The hogs came to market in the winter, the lambs came to market at a certain time in the spring; and the cattle came to market in two seasons, after the summer pasturage and after the winter feeding.

INCREASE IN NUMBER OF PLANTS

In recent years there has been a decided movement of the industry to get nearer the sources of supply. We have seen a cessation of the buildup in the larger centers and a very large increase in numbers of plants throughout the country, and in the numbers of cities in which such plants are located.

All of this has an effect on our ability to cover the animals and products with our inspection service, as we are governed more by the production procedures of the plant, the location of the plant, and the numbers of inspection positions thus required, than by the volume alone.

I would like to call attention to the following chart. It shows what has happened in the increase in numbers of plants, the increase in the cities and towns in which they are located, and makes comparisons with the number of man-years that we have had to service these plants in our inspection service.

Starting in 1949, we had 364 cities and towns in which we were providing inspection in a total of 928 plants. There was not very much change for about 3 or 4 years. Since then there has been a very marked change, with the decentralization of a good part of the industry into smaller cities and towns. By the end of 1958 we expect that we will be operating in 545 cities and towns in 1,364 plants.

At the end of this year we expect that the number of plants will be 1,268 and the number of cities and towns 509.

When this trend first began a few years ago, we thought that it represented a temporary movement and that it would level off. It has not yet leveled off, and we see no sign as yet that it will in the near future.

Now, during this same period of time the numbers of man-years of employment under the meat inspection appropriation generally was below the 1949 level until last year, when the Congress appropriated a small increase. Now we have a request for a substantial increase which will put us in a position to keep up with this trend of the dispersion of the meat-packing industry.

ADDITIONAL INSPECTORS REQUESTED

Our request for program increase is for 192 additional man-years of employment, which would bring us to 3,413.

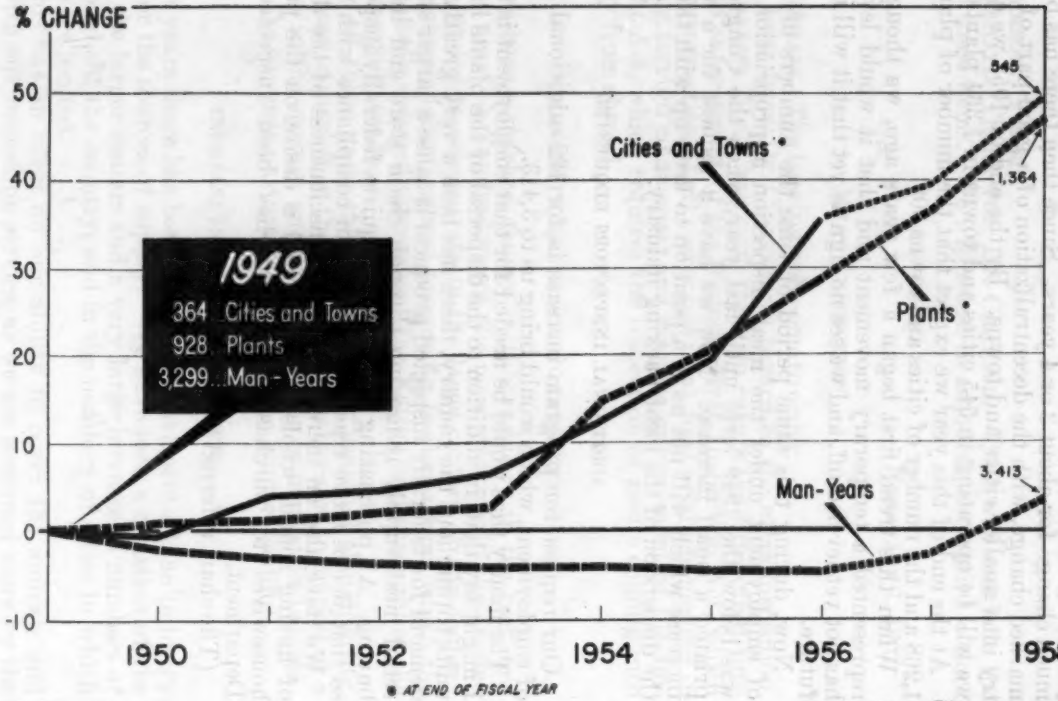
The money that would be needed for that employment is $1,212,000. I might say that, in addition to the dispersal of the plants into smaller units throughout the country, there has been a very greatly increased demand for federally inspected products because a larger share of the retail meat supply is moving through chain store and institutional buying. All purchasing of that kind requires federally inspected meat so that it can move readily interstate in compliance with the law.

We have also an increased public consciousness of the desirability of having sound, wholesome meat and a desire on the part of the housewives to purchase meat that has been inspected by the Deparment.

(The chart referred to is as follows:)

MEAT INSPECTION

Manpower and Work Load



* AT END OF FISCAL YEAR

U.S. DEPARTMENT OF AGRICULTURE

NEG. 87(1)-5038 AGRICULTURAL RESEARCH SERVICE

ADJUSTMENT IN PAY SCALES FOR INSPECTORS

Dr. CLARKSON. Another factor in our requested funds for next year is the need to adjust the pay scales of our lay meat inspectors. These inspectors, of whom there are some 2,009 in our service, have called to our attention their conviction that they were not being paid at a rate commensurate with the job they were doing, or at a rate commensurate with similar jobs in the Federal Government. So there has been underway in the Civil Service Commission for more than 2 years a very careful study of the classification schedules and the pay rates for these employees.

Mr. MARSHALL. They have approved this pay raise at the present time?

Dr. CLARKSON. They have given it substantial approval in all its major aspects. They tell us that they expect to release the schedules for activation between now and July 1. There are some details that they have still to work on.

To accomplish this change in pay schedule, which will bring these inspectors into line with the salaries for people doing comparable work in other agencies of the Government, will raise our costs by $590,000. It is not possible for us to absorb this cost, as nearly all of our annual expenditures go into the employment of people, and to absorb this additional cost per man would mean the laying off of approximately 100 of these inspectors to make up the difference.

WASHABLE OUTER GARMENTS FOR INSPECTORS

The third item of increase provided in the budget is for $330,000 to furnish meat inspectors with washable outer garments to protect the product, and to protect the sanitation of the plants in which they work.

Mr. HORAN. Well, do they not have that now?

Dr. CLARKSON. No, sir. The meat inspectors have always been required to furnish their own work clothes which would be acceptable for working in the plants. They must be washable, they must be clean, so as to protect the sanitation of the product.

In recent developments in governmental practice, employees who are required to wear certain uniforms have their uniforms furnished by the Government or are reimbursed for furnishing them. It seems appropriate that these employees be furnished their work clothes, which they must have.

These employees do not come under the Uniform Allowance Act, but it does seem to be in line with sound public policy to furnish them with this required clothing.

That would require an additional $330,000 and, just as in the case of the reclassification of the lay meat inspectors, we would not be able to accomplish this adjustment within our present funds without reduction in manpower, which we, of course, cannot stand without impairment of the work.

Mr. MARSHALL. What is the practice of the meatpackers?

Dr. CLARKSON. The meatpackers do not have a standard practice. Many of them furnish the clothing; many of them do not. Almost all of them furnish the laundry, and the practice is increasing among meatpackers to furnish more and more articles of clothing and equipment.

U.S. DEPARTMENT OF AGRICULTURE

ADDITIONAL INSPECTORS REQUESTED

NUMBERS OF ANIMALS INSPECTED

Mr. MARSHALL. Dr. Clarkson, relative to the need of inspectors, how do the numbers of animals compare on January 8, 1957, with January of 1956?

Dr. CLARKSON. I have the latest slaughter report in front of me, and in regard to the changes from a year ago, the cattle slaughter is up 6 percent; calf slaughter is up 8 percent; hog slaughter is down 12 percent; and sheep and lambs are down 3 percent.

That is for the week of January 28 as against the comparable week a year ago.

Mr. MARSHALL. We have a release from the Department of Agriculture of the United States production of meat for the week ended January 5, and they point out that cattle slaughter ran 333,000 head, which was 4 percent above the 320,000 the preceding week but 5 percent below the 351,000 for the corresponding week last year. So apparently this week that we asked about was less.

Dr. CLARKSON. I have the figures here for that week, Mr. Chairman. I do not have the comparative figures with a year ago. I have no doubt that your figures are correct.

Mr. MARSHALL. This release will be inserted in the record.

(The release referred to is as follows:)

UNITED STATES DEPARTMENT OF AGRICULTURE,
Washington, January 8, 1957.

USDA MEAT PRODUCTION REPORT FOR THE WEEK ENDED JANUARY 5

Meat production under Federal inspection for the week ended January 5 was estimated at 362 million pounds, according to the United States Department of Agriculture. This was 7 percent above the 338 million pounds a week ago but 13 percent below the 416 million pounds a year ago.

Slaughter of all species increased compared with the previous holiday week but was generally below that of the opening week of 1956. The greatest decrease compared with last year was in hog slaughter which was 21 percent below a year ago. Based on marketings so far this week, national meat production during the current week will fall considerably short of that of a year ago.

Cattle slaughter of 333,000 head was 4 percent above the 320,000 the preceding week but 5 percent below the 351,000 for the corresponding week last year. Beef production was 183.2 million pounds compared with 174.4 million pounds the preceding week and 197.1 million pounds a year ago.

Calf slaughter was 125,000 compared with 98,000 the preceding week and 135,000 last year. Output of inspected veal for the 3 weeks under comparison was 14.6, 11.5, and 16.0 million pounds, respectively.

Slaughter of 1,125,000 hogs was 6 percent above the 1,060,000 the previous week but 21 percent below the 1,433,000 for the corresponding week a year ago. Production of pork was 152.3 million pounds compared with 141.3 million pounds a week ago and 189.6 million pounds a year ago.

Sheep and lamb slaughter was 243,000 compared with 225,000 the preceding week and 268,000 last year. Production of lamb and mutton for the 3 weeks amounted to 11.7, 10.6, and 13.0 million pounds, respectively.

For the week ended December 22, 1956, actual slaughter included 384,730 cattle, 150,402 calves, 1,359,126 hogs, and 226,744 sheep and lambs. Actual production of lard for the same week was 45.3 million pounds.

The following table shows numbers of livestock slaughtered for the current week with comparisons. Numbers slaughtered by geographic regions are shown on page 2 of this release.

Estimated federally inspected slaughter and meat production

Week ended—	Beef		Veal		Pork (excluding lard)		Lamb and mutton		Total meat production	Total lard production
	Number	Production	Number	Production	Number	Production	Number	Production		
	Thousands	*Million pounds*	*Thousands*	*Million pounds*	*Thousands*	*Million pounds*	*Thousands*	*Million pounds*	*Million pounds*	*Million pounds*
Jan. 5, 1957	333	183.2	125	14.6	1,125	152.3	243	11.7	361.8	----------
Dec. 29, 1956	320	174.4	98	11.5	1,060	141.3	225	10.6	337.8	----------
Jan. 7, 1956	351	197.1	135	16.0	1,433	189.6	268	13.0	415.7	51.3

Inspected slaughter by regions with comparisons

Regions	Week ended—				Percentage change from Jan. 7, 1956
	Jan. 5, 1957	Dec. 29, 1956	Dec. 22, 1956 [1]	Jan. 7, 1956 [1]	
Cattle:					
North Atlantic States	25,000	26,000	29,305	21,757	+15
South Atlantic States	8,000	6,000	8,647	9,182	−13
North Central States:					
Eastern	67,000	67,000	78,038	68,717	−2
Northwestern	96,000	97,000	112,411	113,224	−15
Southwestern	33,000	37,000	39,994	35,410	−7
South Central States	39,000	31,000	44,418	34,541	+13
Mountain States	22,000	21,000	26,106	21,750	+1
Pacific States	43,000	36,000	45,811	46,881	−8
United States total	333,000	320,000	384,730	351,462	−5
Calves:					
North Atlantic States	15,000	18,000	18,131	18,900	−21
South Atlantic States	6,000	2,000	6,193	6,615	−9
North Central States:					
Eastern	47,000	37,000	59,983	48,076	−2
Northwestern	22,000	19,000	29,348	24,768	−11
Southwestern	6,000	4,000	6,907	5,758	+4
South Central States	21,000	10,000	19,163	21,435	−2
Mountain States	1,000	1,000	1,872	1,683	−41
Pacific States	7,000	7,000	8,805	8,195	−15
United States total	125,000	98,000	150,402	135,430	−7
Hogs:					
North Atlantic States	101,000	106,000	129,062	104,661	−3
South Atlantic States	64,000	31,000	65,386	61,172	+5
North Central States:					
Eastern	284,000	268,000	329,118	319,077	−11
Northwestern	429,000	426,000	526,481	591,315	−27
Southwestern	95,000	98,000	123,294	156,911	−39
South Central States	85,000	77,000	104,951	112,414	−24
Mountain States	19,000	21,000	23,305	23,529	−19
Pacific States	48,000	33,000	57,529	63,917	−25
United States total	1,125,000	1,060,000	1,359,126	1,432,996	−21
Sheep and lambs:					
North Atlantic States	39,000	36,000	42,831	42,564	−8
South Atlantic States	----------	----------	----------	----------	----------
North Central States:					
Eastern	32,000	31,000	29,082	31,888	0
Northwestern	80,000	77,000	75,116	94,329	−15
Southwestern	20,000	23,000	17,972	26,100	−23
South Central States	18,000	13,000	13,895	16,088	+12
Mountain States	22,000	21,000	20,650	21,224	+4
Pacific States	32,000	24,000	27,198	35,961	−11
United States total	243,000	225,000	226,744	268,154	−9

[1] Actual figures.

Mr. MARSHALL. Now, Dr. Clarkson, we are wondering how we can justify an increase of inspectors with an apparent dropping off in the number of slaughters of animals for the year. These figures somewhat relate to that, do they not?

Dr. CLARKSON. Those figures, Mr. Chairman, are poundage figures, and it is apparent during this year that lighter cattle are coming to market than came to market a year ago, which accounts for some of the difference. And it makes no difference in terms of the inspection load whether the animals are heavy or light at the time of slaughter.

There has been during this year some reduction on most of the weeks in the past 3 months—I believe that is correct—that is some reduction in numbers over a year ago. But numbers do not tell the story, as it is necessary for us to provide inspection personnel at the various points in the meat packers' production system. Whether they work 6 hours or 10 hours a day makes no difference in the numbers of inspectors we have to have in that particular plant.

So that whether the numbers rise slightly or go down slightly, as long as the numbers of plants and the numbers of inspection positions increase, our workload increases. We are unable to adjust to lesser numbers of animals.

Now, ofttimes if there is a heavy run of animals the meat packer works long hours overtime, the packer does reimburse the Department for the overtime costs of maintaining those inspectors on for a longer shift. During the winter months particularly—and this winter is no exception—there are many of the plants that are working well over 8 hours a day, in which case overtime is paid by the packer.

Even though we can select weeks or periods during the year which may run behind the same period the previous year, the figures reflecting total animals slaughtered under Federal inspection is increasing as shown by the following tabulation:

Total post mortem inspections (carcasses)

Fiscal year:	
1955	98,194,761
1956	108,539,755
1957 (estimated)	104,413,375
1958 (estimated)	108,716,000

Our estimate of 104 million for 1957 as compared to 108 million for 1956 at the present time appears to be too low. The first 6 months of this fiscal year revealed that we have had a total of 54,500,000 slaughtered under the inspection as compared to 54,700,000 for the same period during the 1956 fiscal year. And you will notice our estimate for 1958 indicates the total number to be slightly over the 1956 total slaughtered. However, we should point out again what we have previously said, that slaughter figures alone are not a fair measurement of the need for man-years of inspection service. It is interesting to note that the estimated cost per animal was 8 cents for Federal meat inspection at the time the act was passed in 1906. Currently it is running at the rate of 15 cents per animal, but in terms of the buying power of the 1906 dollar, this is equivalent to 5½ cents per animal at the present time.

With further reference to the comparison made previously of meat-inspection funds and funds for livestock-disease control, I would like to emphasize that our livestock-disease-control program benefits

greatly from the meat-inspection activities. Through meat inspection, we uncover diseased animals brought in for slaughter. Such information is turned over to the State and Federal animal-disease-control officials who trace the condition to the sources of infection and then take the necessary corrective measures. For example, as I have already described to you, if an animal being slaughtered is found to have tuberculosis, the animal is traced back to the farm from whence it came and the other animals with which it was in contact are examined for tuberculosis. This has been most effective in reducing disease infection. So our expenditures for meat inspection are of very direct benefit to the farmer from the disease angle as well as from creating a broader market for his product.

Mr. MARSHALL. Mr. Natcher.

CHANGES IN REQUIREMENTS FOR PLANT INSPECTIONS

Mr. NATCHER. Dr. Clarkson, I notice from the justifications that some 96 additional meat packing plants require meat-inspection service for 1958, which is an increase of 7.6 percent. Now, have there been any changes insofar as the Department is concerned in the requirements for the qualifying processes as far as inspectors are concerned?

Dr. CLARKSON. You mean changes for requirements that the meat packers must meet?

Mr. NATCHER. Yes.

Dr. CLARKSON. We are in a constant state of evolution in the application of our meat-inspection requirements. Those requirements go to the sanitation of the plant, the construction and layout of the plant, to determine whether it is such that clean, sound meat can be produced and that there will be ample opportunity for the inspector to perform his duties.

We take advantage of every development in the meat-packing construction and equipment industry and in every technological advantage that we can to keep our requirements current with present-day norms of performance in that line.

At the same time, the requirements for handling of meat food products, in the preparation of sausage and frankfurters and hamburgers and canned meats are slowly but constantly undergoing change. There again we try to keep up with present-day developments, and to that extent there has been a change this year, as in previous years.

Mr. NATCHER. That answers my question.

Mr. MARSHALL. Mr. Horan.

EMPLOYMENT OF INSPECTORS

Mr. HORAN. Have you been able to keep your personnel list filled?

Dr. CLARKSON. Yes, sir. We are right up to date on our employment of people.

I should say that the turnover in lower grades of the meat inspectors and in the veterinary meat inspectors has been a little high because our rates of pay were not as high as they should be. With this adjustment we expect to get, we think that turnover will be materially decreased, which would add to our ability to keep the better-qualified inspectors.

Mr. VURSELL. Mr. Chairman, I would like to inquire, first, whether in the recruiting these meat inspectors are brought in through civil service. Are they?

Dr. CLARKSON. They are all civil-service employees, and all recruited through civil-service procedures; yes, sir.

Mr. VURSELL. What experience, what knowledge by past experience does a meat inspector have to have or is he supposed to have?

Dr. CLARKSON. The veterinary meat inspectors, of course, must be graduated from an accredited veterinary college.

Mr. VURSELL. Yes.

Dr. CLARKSON. The nonprofessional meat inspectors must have had a good background in either farm livestock or in the meat business, such as in meat-packing plants or a processing plant. He must pass an examination which is prepared by the Civil Service Commission to see that he is a capable individual. We rely upon inservice training on the job, after he is employed.

They are employed at an entrance grade and put on a period of training with experienced meat inspectors. As they become trained and able to carry one of these positions, and if they perform properly, they are raised to the next grade level, what we call the journeyman grade for that type of operation.

Mr. VURSELL. What is the salary of the beginner at the lower grade? Per year?

Dr. CLARKSON. $3,175 for the GS–3, which is the entrance, and then after suitable performance with on-the-job training they move up to GS–4, which is $3,415.

Now, these adjusted classification rates that I spoke of will raise that entrance salary and raise that next grade comparably.

Mr. VURSELL. And what is the veterinarian's salary, the veterinarian inspector?

Dr. CLARKSON. The veterinarian out of school, without further training, is $5,200. And then he, in comparable manner, if he performs well after his beginning period, goes up to $5,440. And then there are the usual opportunities for advancement in the civil-service structure after that time.

We have underway in the Civil Service Commission a study of that situation also, as we have found it extremely hard in the past to obtain and retain veterinarians in the lower grades. And we are confident that we will be able to improve that situation somewhat, which we can do without budgetary change.

If we have difficulty in obtaining the number of people to meet this workload before we can recruit them, we will detail them from other lines of work for the temporary period until others are recruited.

Mr. VURSELL. That is all, Mr. Chairman.

Dr. CLARKSON. Mr. Chairman, I have some pictures of the kinds of work these folks do, if the committee would be interested in them.

Mr. MARSHALL. Yes, sir, I believe we would.

Diseases of Animals and Poultry

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Eradication activities: (a) Eradication of vesicular exanthema of swine (advanced from Commodity Credit Corporation)	$2,092,180	$1,550,000	
2. Research	1,898,256	3,500,000	$3,640,000
Total obligations	3,990,436	5,050,000	3,640,000
Financing:			
Advances (repayable to Commodity Credit Corporation)	−1,793,000	−1,496,381	
Unobligated balance no longer available	65,363		
Appropriation (adjusted)	1,898,000	3,500,000	3,640,000
Reappropriation	364,799	53,619	

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
Total number of permanent positions	448	709	500
Full-time equivalent of all other positions	3	3	2
Average number of all employees	485	577	470
Number of employees at end of year	420	650	500
Average salaries and grades:			
General schedule grades:			
Average salary	$5,209	$5,218	$5,262
Average grade	GS–7.0	GS–7.0	GS–7.2
Ungraded positions: Average salary	$3,829	$3,911	$3,909
01 Personal services:			
Permanent positions	$2,083,045	$2,522,864	$2,106,700
Positions other than permanent	11,184	8,500	5,000
Regular pay above 52-week base	7,528		8,800
Payment above basic rates	58,908	72,900	75,500
Total personal services	2,160,665	2,604,264	2,196,000
02 Travel	252,597	219,000	29,000
03 Transportation of things	9,467	10,500	8,000
04 Communication services	26,795	25,000	15,000
05 Rents and utility services	32,270	51,000	50,000
06 Printing and reproduction	3,051	1,000	
07 Other contractual services	192,170	240,000	160,000
Services performed by other agencies	471,571	608,700	274,700
08 Supplies and materials	514,776	814,536	611,300
09 Equipment	223,223	397,000	65,000
10 Lands and structures	10,884		105,000
11 Grants, subsidies, and contributions: Contribution to retirement fund			132,000
13 Refunds, awards, and indemnities: Vesicular exanthema	81,403	80,000	
15 Taxes and assessments	16,578	7,000	2,000
Subtotal	3,995,450	5,058,000	3,648,000
Deduct charges for quarters and subsistence	5,014	8,000	8,000
Total obligations	3,990,436	5,050,000	3,640,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$1,945,000	$3,500,000	$3,640,000
Transferred to "Salaries and expenses, Agricultural Research Service" (5 U. S. C. 572)	−47,000		
Adjusted appropriation	1,898,000	3,500,000	3,640,000
Reappropriation of prior year balance	364,799	53,619	
Obligated balance brought forward	952,752	720,070	873,689
Total budget authorizations available	3,215,551	4,273,689	4,513,689
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	1,656,261	2,700,000	3,100,000
Out of prior authorizations	595,222	700,000	800,000
Total expenditures	2,251,483	3,400,000	3,900,000
Balance no longer available:			
Unobligated (expiring for obligation)	65,363		
Other	178,635		
Obligated balance carried forward	720,070	873,689	613,689
Total expenditures and balances	3,215,551	4,273,689	4,513,689

Mr. MARSHALL. The next item we will take up will be the diseases of animals and poultry. We find this on page 14 of the committee print and 178 of the justification. We will insert at this point pages 178 and 179 of the justification.

(The pages referred to are as follows:)

Diseases of animals and poultry

	Eradication activities	Research
Appropriation act, 1957 and base for 1958	(1)	$3,500,000
Budget estimate, 1958	(1)	3,640,000
Increase (for contribution to the retirement fund pursuant to Public Law 854)		+140,000

[1] Eradication activities financed by transfers from other accounts (Commodity Credit Corporation) as authorized in the annual appropriation act. Transfer of not to exceed $1,550,000 for eradication of vesicular exanthema of swine authorized for fiscal year 1957 and proposed at not to exceed $1,270,000 for fiscal year 1958. An estimate for 1958 to reimburse the Commodity Credit Corporation for transfers through June 30, 1955, and interest through June 30, 1957, is explained elsewhere in these justifications.

Project statement

Project	1956	1957 (estimated)	Retirement costs (Public Law 854)	1958 (estimated)
1. Eradication activities: (a) Eradication of vesicular exanthema of swine	[1] $2,092,180	$1,550,000	([2])	([2])
2. Research	1,898,256	3,500,000	+$140,000	$3,640,000
Unobligated balance	65,362			
Total retirement costs (Public Law 854)			[+140,000]	[140,000]
Total available or estimate	4,055,798	5,050,000	+140,000	3,640,000
Transferred to "Salaries and expenses, Agricultural Research Service"	+47,000			
Prior year balances available	−364,798	−53,619		
Transfers from Commodity Credit Corporation	−1,793,000	−1,496,381		
Appropriation or estimate	1,945,000	3,500,000		

[1] Excludes transfer of $12,000 for fiscal year 1956 to the appropriation, "Salaries and expenses, Agricultural Research Service, research" under the authority of sec. 702 (b) of the Department of Agriculture Organic Act of 1944 for research to support the vesicular exanthema eradication program.

[2] Eradication activities financed by transfers from other accounts (Commodity Credit Corporation) as authorized in the annual appropriation act. Transfer of not to exceed $1,550,000 for eradication of vesicular exanthema of swine authorized for fiscal year 1957 and proposed at not to exceed $1,270,000 for fiscal year 1958. An estimate for 1958 to reimburse the Commodity Credit Corporation for transfers through June 30, 1955, and interest through June 30, 1957, is explained elsewhere in these justifications.

INCREASE

(1) ***An increase of $140,000 is required to meet retirement costs under Public Law 854, applicable to the base for 1958.***—A full explanation of retirement cost estimates appears in the "preface" at the beginning of the explanatory notes.

ERADICATION ACTIVITIES

Eradication of vesicular exanthema in swine

It is estimated that in fiscal year 1958, not to exceed $1,270,000 will be transferred from the Commodity Credit Corporation for eradication of vesicular exanthema of swine. This is a reduction of $280,000 as compared with the authorization of $1,550,000 provided in the 1957 Appropriation Act. The estimated costs of the program for fiscal years 1956, 1957, and 1958 are distributed as follows:

	Fiscal year		
	1956	1957 (estimated)	1958 (estimated)
Operating expenses:			
Enforcement	$1,742,111	$1,189,000	$909,000
Diagnosis	1,414	11,000	11,000
Inspection at stockyards	267,252	270,000	270,000
Total, operating expenses	2,010,777	1,470,000	1,190,000
Indemnities	81,403	80,000	80,000
Total	2,092,180	1,550,000	1,270,000

For fiscal year 1957, transfers of funds for the vesicular exanthema program are being made as follows:

Commodity Credit Corporation	$1,496,381
Unobligated balance in 1956	53,619
Total	1,550,000

During 1956 infection was confined to California. California State and Federal authorities agreed that the herds showing infection should be slaughtered, the premises cleaned and disinfected, and garbage fed to hogs on these premises should be properly heat treated. All of these measures were carried out and the last reported outbreak of vesicular exanthema in California occurred in Novem-

ber 1955. The California garbage-cooking law became effective January 1, 1956, and complete compliance is reported. Close surveillance over an extended period of time must be maintained to discover promptly any new outbreak of the disease, since the disease has been known to recur with great virulence in a State after there have been no reports of its presence within the State for many months. For example, there were renewed outbreaks of vesicular exanthema in New Jersey in August and November 1956 after approximately 2 years without an apparent outbreak. Consequently, it is essential that inspection be continued at a level adequate to detect the disease should it recur.

Mr. MARSHALL. Dr. Clarkson, do you want to discuss this item?

VESICULAR EXANTHEMA OF SWINE

Dr. CLARKSON. I would like to discuss the progress and status of the program to eradicate vesicular exanthema of swine. This virus-caused disease, which closely resembles foot-and-mouth disease and which we have been working with the States to eradicate since 1952, is now confined to some rather small areas in the States of New Jersey, Massachusetts, and Connecticut.

As a part of this program, we have found it essential to change from the feeding of raw garbage to swine to the cooking of that garbage.

If the following chart on the right had been begun in 1952, it would show almost no garbage being cooked. At the present time 90 percent of the garbage fed to swine in this country is cooked. Part of our program with the States is to make periodic inspections of the garbage feeding premises to see that the garbage is being cooked and to work with the feeders to improve their methods.

The committee will remember that we had to start from scratch on this part of our work, and we had to develop methods and procedures which would be helpful in all sizes and all kinds of installations. That work, we think, is paying off in the very greatly reduced incidence of vesicular exanthema. We had only 3 outbreaks during the past year, all 3 of which were in New Jersey, and on all 3 the swine were slaughtered and the premises entirely cleaned.

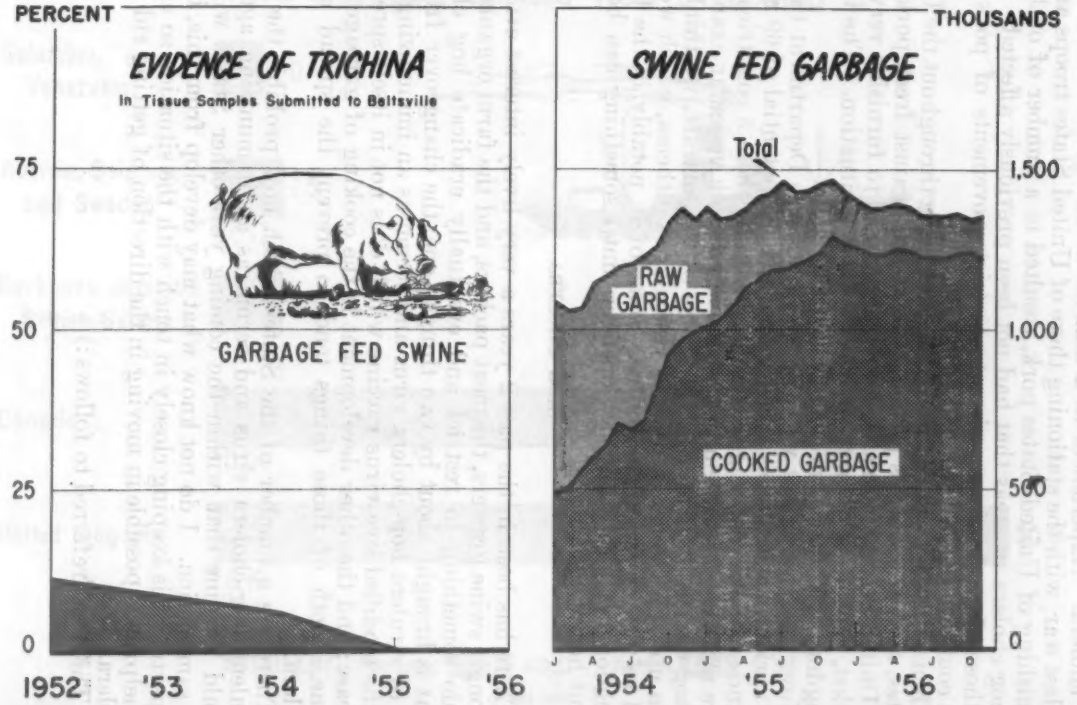
On the left, we have a chart to show what has been happening to trichinosis in swine during this same period. Trichinosis in man is a disease caused by a microscopic parasite which is obtained from the eating of uncooked pork of hogs that were infected with the disease. Most of the hogs get their infection from the eating of uncooked garbage. In other words, it was a constant cycle of perpetuating the disease from hog to meat to garbage, and back to the hogs again.

For many years we had examined samples of swine tissues from hogs that had been fed on garbage and found them consistently to be infested with trichinae in over 10 percent of the swine. Since we began the cooking of garbage, we continued the examinations at a level of about 1,600 samples per year from swine that had been fed on cooked garbage, and we found the incidence of trichinae among those swine to be reduced very markedly, until during this past year we have not been able to find any trichinae in swine that had been fed on cooked garbage.

Now, that does not mean that we have no trichinosis in this country, because there are still 10 percent of the swine being fed on raw garbage. But this is of direct benefit to human health insofar as the process eliminates that hazard of the transmissibility of disease.

(The charts referred to follow:)

VESICULAR EXANTHEMA



U.S. DEPARTMENT OF AGRICULTURE

NEG 57 (1) - 2028 AGRICULTURAL RESEARCH SERVICE

POTENTIAL PORK EXPORT MARKET

Dr. CLARKSON. The next chart pertains to the export of pork as it is affected by the existence in this country of vesicular exanthema and hog cholera. Experiences in a number of foreign countries during the last war, with the stationing there of United States troops and the furnishing of United States pork, resulted in a number of outbreaks of hog cholera in areas that had not been previously affected. Some of those countries began then to restrict movements of pork from this country.

Then with the spread of vesicular exanthema throughout the United States, several countries put on an embargo against fresh pork from the United States. Canada, for example, used to furnish a very good market, depending upon their own production situation. The United Kingdom furnished a sizable market.

Now, the reports that we have received in the Department through our agricultural attachés overseas indicate the potential of 69 million pounds of pork that might be sold abroad to these 5 countries if we were able to satisfy them that we have no more vesicular exanthema or hog cholera in this country. Some of this market, we think, will open up with the eradication of vesicular exanthema, which we hope will be not too far in the future. Some of it, notably in the United Kingdom, will probably not open up until something can be done about hog cholera.

HOG CHOLERA

There has been in the past 2 years a very lively interest evidenced amongst swine growers, the meat packers, and the farm organizations to do something to restrict and eventually eradicate hog cholera. That is brought about by two things—one, the changeover from the use of virulent hog-cholera virus and serum as an immunizing agent to the modified live-virus vaccine which does not in itself spread the disease; and the other development is the cooking of garbage fed to swine. Both of those things tend to prevent the spread of hog cholera.

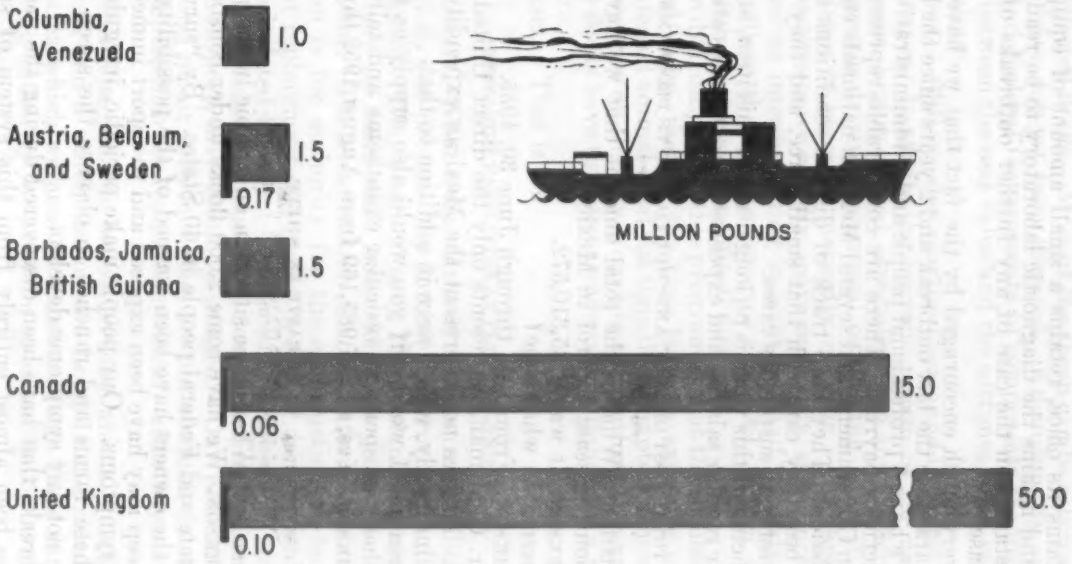
There are a number of the States which now prohibit the use of virulent hog-cholera virus and serum as an immunizing agent. I would imagine that within the coming year other States will take the same action. I do not know what may develop from this, but the Department is keeping closely in touch with the situation so as to be as helpful as possible in moving in the direction of getting rid of hog cholera.

(The chart referred to follows:)

POTENTIAL PORK EXPORTS

If VE and Hog Cholera Were Eradicated

MILLION POUNDS



ANNUAL DATA

U.S. DEPARTMENT OF AGRICULTURE

NEG. 57 (1)-2029 AGRICULTURAL RESEARCH SERVICE

ORGANIZATION IN MEXICO FOR PREVENTION OF FOOT-AND-MOUTH DISEASE

Dr. CLARKSON. One other matter that needs comment under this item is the continuance of the Mexican-United States Commission for the Prevention of Foot-and-Mouth Disease in Mexico. The Commission retains its office, retains a small amount of equipment and materials, and retains the diagnostic laboratory to be ready and able to move instantly in the case of any further outbreaks of foot-and-mouth disease.

We are very much encouraged by the fact that we have now gone nearly 3 years since the last outbreak and 2 years since the border was opened. We have 3 professional people and 1 administrative assistant on the American payroll. There are comparable representatives of the Mexican Government, and several Mexican nationals employed by the Commission. They keep track of disease conditions throughout Mexico as best they can with that small force, and they make field trips to investigate suspicious cases.

The financing of this work is no longer under this item, however, but is under our regular salaries and expenses item and runs about $50,000 a year.

TOTAL COST OF FOOT-AND-MOUTH AND VE PROGRAMS

Mr. MARSHALL. What is the total amount that we have spent on foot-and-mouth-disease control in Mexico?

Dr. CLARKSON. It was $135,310,572.

Mr. VURSELL. In what time?

Dr. CLARKSON. From 1947 through June 30, 1955.

That, Mr. Chairman, represents only the direct United States expenditures. It does not represent the Mexican expenditures, either directly or indirectly, which were in addition to that.

Mr. MARSHALL. I wonder if you would also supply us the amount of money that was spent on vesicular exanthema and tell the dates?

Dr. CLARKSON. Yes, sir; $7,985,169 from August 1952 through June 30, 1956.

SCRAPIE IN SHEEP

Mr. MARSHALL. What is the situation on scrapie in sheep?

Dr. CLARKSON. We have some 2,000 flocks under constant surveillance by State and Federal people in 40 States. By "surveillance" I mean that the owners have been warned of the possibility that some of their sheep may have been exposed and to report immediately any suspicious symptoms. Our people make periodic, irregularly spaced visits to these farms and ranches to observe the sheep and to see whether or not any symptoms develop.

The outbreaks that have been discovered during the past year and a half have been almost entirely from this system of surveillance. During fiscal year 1956 the disease was found in 23 flocks and there was an expenditure of $59,000 of Federal funds for this purpose.

Mr. MARSHALL. Where is this work now being financed?

Dr. CLARKSON. Under "Salaries and expenses, plant and animal disease and pest control." That is under the item of miscellaneous diseases.

Mr. VURSELL. Mr. Chairman, I did not get what the $59,000 figure was spent for.

Dr. CLARKSON. That is a virus disease of sheep and goats which was first found in this country in one flock in 1947, and then was diagnosed again in 1952, and since that time we have had a number of outbreaks in several of the States. It has been handled by a program of eradication with State and Federal forces joining together to destroy the infected flocks. Most of the sheep can be salvaged for food, those that have not yet been diseased. An indemnity is shared by the State and Federal Governments to compensate the owner for the difference between the real value and the ofttimes small salvage value that he realizes.

Mr. VURSELL. Will you describe the disease and the effect that it has?

Dr. CLARKSON. It affects the nervous system of the animal. The animal becomes highly excited, especially upon any artificial stimulus, such as a person driving the animal or striking it, or if the animal strikes a fence it becomes markedly nervous. Its appetite disappears, it tends to move rapidly, move nervously, show incoordination, and to show an intense itching in some parts of its body, and in its efforts to relieve the itching removes the wool. Then, without exception in our experience, the animal dies.

Now, the difficult part of this program is that the incubation period for exposed sheep, that is, the time between exposure to the virus from an infected animal until the time that symptoms show up in that animal, may vary all the way from 8 to 10 months to 3 years. So that these 2,000 flocks have to be kept under surveillance for a period of at least 3 years.

Mr. VURSELL. That is all.

RESEARCH FACILITIES AT PLUM ISLAND, N. Y.

Mr. MARSHALL. What is the status of the research facilities on Plum Island, and do you propose any further construction in 1957?

Dr. CLARKSON. The construction on Plum Island is practically completed. There are some small items that have yet to be completed by the contractor. The construction that is referred to there in the budget item is for authority for the construction of buildings, especially for replacement and repair in case of damage which may occur on this isolated facility. The facility is subject to strong winds, subject to high tides, and our facilities, including docking facilities and boat transport, may become damaged. Our present authorities to replace and repair such facililties are not adequate for us to undertake such replacement or repair immediately after any such emergencies arise.

During this next year we have also some animal quarters and vehicle storage, and a warehouse on the Long Island side of the boat transport area which we need to construct from these funds. So we are requesting authority to spend not to exceed $105,000 on an annual basis for such use.

MOVING ANIMALS TO PLUM ISLAND LABORATORY

Mr. MARSHALL. There is a period of time before these animals are taken over for research purposes on Plum Island itself; are you feeding those animals on Long Island, or are you feeding those——

Dr. CLARKSON. I think Dr. Byerly can best answer.

Dr. BYERLY. The staging procedure, Mr. Chairman, consists of bringing them from the point of origin to a base point a few miles from

Plum Island, on Long Island itself. A certain stock of animals is held there and they are brought periodically to the island.

At the last report we had about 140 head of animals on the island. This was estimated to last us for a 3- or 4-month period of time. So we have three stages. First the ranch from which we obtain them in Virginia; second, in Long Island; and, third, the holding quarters in Plum Island itself. And only in the final stages are the animals moved into the laboratory.

RESEARCH PROGRESS

Mr. MARSHALL. What progress are you making on control of foot-and-mouth disease, Dr. Byerly?

Dr. BYERLY. The statement of the status of the program at Plum Island is given at page 182 and continued on the top of page 183, and I would ask your consent to have that statement incorporated.

Mr. MARSHALL. Without objection, that will be inserted in the record.

(The statement referred to is as follows:)

STATUS OF PROGRAM

RESEARCH

Initiation of program.—Foot-and-mouth disease research was initiated on Plum Island, N. Y., in facilities transferred to the Department of Agriculture by the Department of the Army, July 1, 1954. Research on this disease was authorized by the act of April 24, 1948 (21 U. S. C. 113a).

The two Departments had been jointly engaged in research on Plum Island for a short period of time prior to the transfer of these facilities. The joint work was terminated June 30, 1954, and the facilities, valued at about $5 million, were declared excess to Department of the Army needs. The transfer of these facilities by the Army enabled the Department of Agriculture to undertake some of the urgently needed research at once instead of waiting for completion of the new facilities by the Department for which Congress had appropriated special funds.

During the construction of the main laboratory a serious fire in November 1955 made it necessary for the contractor to demolish and rebuild about 25 percent of the laboratory. This resulted in a delay in occupying the building of nearly 1 year. The main laboratory is expected to be available for use in January 1957, after which the mechanical features will be tested and safety tests will be made using the virus of vesicular stomatitis, which is clinically similar to foot-and-mouth disease.

Current research

1. *Laboratory test for foot-and-mouth disease developed.*—An indirect complement-fixation test has been investigated that promises to provide a practical method of detecting antibodies in the blood of cattle previously exposed to foot-and-mouth disease. Prior to this development laboratory tests of this type could not be depended upon.

2. *Comparative susceptibility of three age groups of cattle to foot-and-mouth disease studied.*—It was determined that there was no difference in the susceptibility to type A virus of foot-and-mouth disease of 2-, 6-, and 18-month-old cattle. Also, there was no indication of difference between breeds and grades. These results, if confirmed with other virus types, are expected to result ultimately in the purchase of less expensive cattle for this research program.

3. *Laboratory stock material prepared.*—Large quantities of virus-bearing tissue of cattle, swine, and guinea pig origin and hyperimmune sera are required for conducting diagnostic tests and for other research uses. Since work on only one type of virus can be conducted at any one time in the former Army facilities, it was necessary to produce a large stock of materials for this purpose. Quantities of virus produced on cultured bovine kidney cells have also been stored for research use. This material will also be available for use in the new facilities.

4. *Usefulness of unweaned mice as test animal in diagnosing foot-and-mouth disease confirmed.*—Work of the past year indicates antibodies can be detected in serum as soon as 6 days after an animal has been infected with the disease.

COMPLETION OF LABORATORY FACILITIES

DR. BYERLY. In addition to that, there are a few comments I would like to make. First of all, this statement reads we will accept occupancy in January, 1957; and I can report that we now have beneficial occupancy of the laboratory. The contractor's people are still there making wiring adjustments and other small things, and probably they will have a few people in the laboratory for some time completing it. However, we are moving furniture in, and are preparing to complete the laboratory tests for security of the laboratories themselves. This will require experimental use of the virus, vesicular stomatitis, and may require some months before we are absolutely sure that all of the five laboratories are completely secure as they are supposed to be.

We have accomplished one major step in those tests already. The incinerators, which of course were designed to take care of all of the terminal materials from the experimental animals in the laboratory, have been tested. This, I may say, was a great relief to us, because the incinerators handle up to 10,000 pounds of carcasses a day, including the fluid which exudes in any incinerator. There was a question in our minds until the tests had been completed. Those tests have been completed, and so that is one accomplished fact.

FOOT-AND-MOUTH RESEARCH

Now, with respect to the progress items themselves, I think they require little emphasis. However, with respect to the No. 2 item, we did try out during this current year some five different breeding strains of cattle and one random bred population to determine whether in our cattle there were significant differences with respect to their susceptibility to foot-and-mouth disease. Amongst this sample we found none. This was a necessary preliminary step because we want to be sure, of course, that our research with foot-and-mouth will be adequately reflective of all kinds of cattle. So we have that assurance with respect to at least this sample of our cattle population.

There is another item with respect to foot-and-mouth, not reported in the progress notes, that seems to me to be of substantial interest. During the course of the year, they have tried ethylene oxide, a gas fumigant, which has been found to have some effect, at least, in decreasing the infectivity of the virus in cattle tongue epithelium. The research is not yet complete, and we cannot yet say this will be an effective fumigant. But we do need as much information as we can get about agents that will destroy the virus. This is hopeful progress.

The stockpiling of the virus has been very substantial during the year, so that we have large quantities of the virus and of the tissue in cattle, swine, and in guinea pigs stockpiled for laboratory use. And we have stockpiled the materials that would be necessary for the diagnosis and the necessary antiserum. This is accomplished. I think Dr. Simms reported to you last year on the major accomplishments of the laboratory in adapting the virus to tissue-culture tech-

niques which make it possible for us to grow it in the laboratory on kidney cultures—virus propagation that otherwise would have had to be accomplished through the propagation in the tongues of the cattle themselves. This is a great saving with respect to the materials and of labor in production for the needed quantities of the virus.

In summary, Mr. Chairman, we feel that we are making very excellent progress, though we have some problems in changing over and, of course, moving from the construction phase to the operating phase of the laboratory.

TRANSPORTATION OF WORKERS TO PLUM ISLAND

Mr. MARSHALL. Did you lose many days up there last year because of your inability to get workers from the mainland to Plum Island?

Dr. BYERLY. No, sir. I think no more than 3 or 4 days, as far as that was concerned. Now, last winter was a fairly open winter, and there may be periods when we will have more difficulty than that.

We are, of course, endeavoring to improve the communications between the island and Long Island. We hope to acquire another boat and are preparing our own harbor and docking facilities on Long Island for supplemental trips; whereas, presently we rely entirely on the contract with the ferry that makes these trips.

Mr. VURSELL. How far is Plum Island from Long Island?

Dr. BYERLY. About 3 miles, and it is right rough water.

Mr. MARSHALL. Mr. Horan?

DIFFERENTIATION OF WORK AT PLUM ISLAND, N. Y., AND AMES, IOWA, LABORATORIES

Mr. HORAN. What is the relationship of the Plum Island Laboratory to the one we are building out at Ames?

Dr. BYERLY. The laboratory at Ames, of course, will include a selective group, we hope, of about 25 diseases at one time; diseases now present in this country. It will not include work on foot-and-mouth disease.

As far as the administrative relationship is concerned, I would say that these are both major laboratories that have a measure of autonomy but reporting to the Chief of the Animal Disease and Parasite Branch. Beltsville, Ames, Plum Island, and other federally owned locations and perhaps 40 points of cooperative research are all grouped together for disease research administration. So there is supervision under the one man. Other foreign diseases that do not exist in this country may be subject to research at Plum Island Laboratory, though insofar as we are able, we would prepare to do the research on those diseases in the foreign country itself.

For example, on African swine fever we should work in Kenya, in Africa. When we can make arrangements for equal research abroad to get equal products and perhaps a saving of personnel we do so. Dr. Simms has just returned from a trip to Great Britain looking into the problem of scrapie. In Scotland they have 2,000 sheep in research on scrapie. We have no facilities where we could hold 2,000 sheep for such research. And while we have the few instances in this country that Dr. Clarkson referred to, I believe the incidence in Great Britain has been estimated to be very much greater than it is here. So if we can, through cooperation with them, accom-

plish the research before the Ames Laboratory is completed, it will be very economical for us to do so, and we are seeking to do this. But there will be times when there may have to be other research on exotic diseases at Plum Island.

RESEARCH ON VESICULAR EXANTHEMA

Mr. HORAN. What about the vesicular exanthema?

Dr. BYERLY. Insofar as we are doing research on vesicular exanthema it is at Beltsville. The vesicular stomatitis research is being done at Beltsville. The virus is very similar in all its characteristics of spread to the virus of the foot-and-mouth. Vesicular stomatitis is not a serious disease. Even though it is pervasive, it only causes a mild disease in cattle, is soon over. We can use it as an experimental object at Plum Island when we need a comparison with foot-and-mouth disease virus.

Mr. HORAN. The outbreak in Canada of some 4 or 5 years ago, was that stomatitis or was that foot-and-mouth?

Dr. BYERLY. There was an outbreak in Canada a few years ago of foot-and-mouth disease.

Mr. HORAN. At the time they claimed it was stomatitis.

Dr. CLARKSON. It was foot-and-mouth disease.

DANGER OF SPREAD OF FOOT-AND-MOUTH DISEASE TO CLOVEN-HOOF WILDLIFE

Mr. HORAN. Would it not have been fine if it had gotten into the Rocky Mountains with all the cloven-hoof wildlife?

Dr. CLARKSON. It would be the worst thing imaginable.

Mr. HORAN. What is the condition of the cloven-hoof wildlife as far as foot-and-mouth disease is concerned? Do you find any evidence of that in animals that have been killed?

Dr. CLARKSON. They are susceptible to the disease. There was none found in the case of the Canadian outbreak, and of course we have had none in this country because we have not had the disease since 1929. In the Mexican outbreak, that was a constant fear and a constant threat, and we had inspectors out specifically detailed in many parts of the area in Mexico examining wild animals that were caught, and actually out hunting and shooting wild animals to determine whether there was any evidence of the disease among them. We were fortunate in that the area that was involved with foot-and-mouth disease had a very heavy population of people. It was very heavily settled, and the wildlife population was very low. So that probably for that reason, as much as any, we found no evidence of the disease getting out amongst the wild animals.

Mr. HORAN. Is there any evidence to prove or that would indicate that wildlife as such is more immune to contracting the disease than highly bred domesticated animals?

Dr. CLARKSON. I do not know of any evidence to that point. There is varying susceptibility amongst varying species of animals. There are some forms of wild animals that seem to be relatively less susceptible. And also it seems that ofttimes the wildlife may not be as badly infected, even though they contract the disease, the effects may not be quite as bad. Some of that has been attributed to ruggedness

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of the animals, but it seems to us that it is more properly explainable through an analysis of the variableness of the foot-and-mouth viruses themselves, that ofttimes they are found to be very pervasive and produce a violent reaction in the animals infected. Other times it seems to spread very slowly and produces only a mild disease in the animals, even among domestic stock of the same relative susceptibility. So it is extremely hard to generalize on that subject as to whether one class of animals is more susceptible than another except under specific laboratory tests, as Dr. Byerly mentioned a while ago, where they found that insofar as our domestic cattle are concerned, they have found no difference in susceptibility.

Mr. HORAN. As I understand it, one of the problems of the able live-stock man is to guard against inbreeding and muzzle lines; is there any evidence to so indicate that—well, we do have evidence where inbreeding goes too far that certain malformations occur and other difficulties. Could it be said that in purebred stock that they are more susceptible to disease than if the blood line is kept reasonably balanced?

Dr. CLARKSON. No, sir. There is no evidence to that effect.

Mr. VURSELL. I would like to ask one question. I think I know the answer, but I would like to pursue it. Do we have any foot-and-mouth disease in this country at the present time?

Dr. CLARKSON. No, sir; none since 1929. Each outbreak has been eradicated by the slaughter method, and we would propose to do the same today.

Mr. VURSELL. That is all.

REIMBURSEMENTS TO COMMODITY CREDIT CORPORATION FOR ADVANCES FOR ANIMAL DISEASE ERADICATION ACTIVITIES

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
Repayment of advances from Commodity Credit Corporation:			
(a) For eradication of foot-and-mouth disease	$5,788,897	$1,269,330	
(b) For vesicular exanthema eradication			$1,853,450
(c) For brucellosis eradication		11,791,624	16,728,210
Total obligations	5,788,897	13,060,954	18,581,660
Financing:			
Comparative transfers from (−) other accounts	−5,788,897		
Appropriation		13,060,954	18,581,660

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
14 Interest	$135,428	$272,257	$564,225
Undistributed: Repayment of advances from Commodity Credit Corporation	5,653,469	12,788,697	18,017,435
Total obligations	5,788,897	13,060,954	18,581,660

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation		$13,060,954	$18,581,660
EXPENDITURES AND BALANCES			
Total expenditures (out of current authorizations)		13,060,954	18,581,660

Mr. MARSHALL. We come now to the item of reimbursements to CCC for advances for animal disease eradication. We find this on page 56 of the committee print and page 521 of the justification. At this point we will insert pages 521 through 522 of the justification.

(The statement referred to is as follows:)

REIMBURSEMENTS TO COMMODITY CREDIT CORPORATION FOR ADVANCES FOR ANIMAL DISEASE ERADICATION ACTIVITIES, AGRICULTURAL RESEARCH SERVICE

PURPOSE STATEMENT

The purpose of this request is to provide funds to reimburse the Commodity Credit Corporation for advances made and other costs incurred in fiscal year 1956 for livestock disease eradication activities administered by the Agricultural Research Service. Since fiscal year 1948, the agricultural appropriation acts have included an authorization which provides that, when emergency outbreaks of diseases threaten the livestock or poultry industry, the Secretary may transfer to the appropriation "Diseases of animals and poultry" such sums as he may deem necessary from appropriations or funds available to other bureaus, corporations, or agencies of the Department. Section 204 (e) of title II of the Agricultural Act of 1954, as amended, authorized the Secretary to conduct an expanded program for the eradication of brucellosis. Under these authorities, three programs have been conducted as follows:

Eradication of foot-and-mouth disease.—Mexico was declared to be free of foot-and-mouth disease on December 31, 1954. With the appropriation of $1,269,330 made in fiscal year 1957, all repayments to Commodity Credit Corporation of transfers for costs of this program were completed.

Eradication of vesicular exanthema of swine.—Transfers to finance the eradication of vesicular exanthema of swine were made from Commodity Credit Corporation funds in fiscal year 1956. The amount so transferred, including interest through June 30, 1957, was $1,853,450 and funds are being requested in this budget to reimburse the corporation in this amount. In fiscal year 1957, transfers of not to exceed $1,550,000 are authorized and an appropriation to reimburse the Corporation for amounts transferred, including interest, will be requested as a part of the 1959 budget estimates.

Eradication of brucellosis.—On September 23, 1954, the Secretary approved the initiation of an accelerated brucellosis program under the authority of section 204 (e) of title II of the Agricultural Act of 1954. To finance this program, the act initially authorized the transfer of not to exceed $15 million annually for a period of 2 years from funds available to the Commodity Credit Corporation. Public Law 465, approved April 2, 1956, amended section 204 (e) to increase the amount for fiscal year 1956 to $17 million and for each of fiscal years 1957 and 1958 to $20 million. The cost of the expanded program in fiscal year 1956, including interest through June 30, 1957, was $16,728,210 and funds are being requested in this budget to reimburse the corporation in this amount. In fiscal year 1957, it is anticipated that the full amount authorized for the expanded program will be needed and an appropriation will be requested as a part of the 1959 budget estimates to reimburse the corporation for such costs.

	Appropriated, 1957 (fiscal year 1955 program)	Budget estimate, 1958 (fiscal year 1956 program)
Appropriated funds:		
Eradication of foot-and-mouth disease	$1,269,330	
Eradication of vesicular exanthema of swine		$1,853,450
Eradication of brucellosis	11,791,624	16,728,210
Total	13,060,954	18,581,660

Reimbursements to Commodity Credit Corporation for advances for animal disease eradication activities

Appropriation Act, 1957 (fiscal year 1955 program)	$13,060,954
Budget estimate, 1958	18,581,660
Increase (to reimburse Commodity Credit Corporation for costs incurred during fiscal year 1956)	+5,520,706

SUMMARY OF INCREASES AND DECREASES, 1958

Decrease due to completion of payments required to reimburse commodity Credit Corporation for costs incurred for eradication of foot-and-mouth disease	−1,269,330
Increase to reimburse Commodity Credit Corporation for costs incurred for eradication of vesicular exanthema of swine	+1,853,450
Increase to reimburse Commodity Credit Corporation for costs incurred for accelerated brucellosis program	+4,936,586

Project statement

Project	1956	1957 (estimated)	Increase or decrease	1958 (estimated)
Reimbursements for costs incurred in prior fiscal years:				
(a) For eradication of foot-and-mouth disease	$5,788,897	$1,269,330	−$1,269,330	
(b) For eradication of vesicular exanthema of swine			+1,853,450	$1,853,450
(c) For brucellosis eradication		11,791,624	+4,936,586	16,728,210
Total available or estimate	5,788,897	13,060,954	+5,520,706	18,581,660
Transfer in 1957 Estimates from "Reimbursements to Commodity Credit Corporation for Advances for Animal Disease Eradication Activities"	−5,788,897			
Total appropriation		13,060,954		

Mr. MARSHALL. Do you have a statement you wish to make on this item?

Dr. CLARKSON. Mr. Chairman, this item is for reimbursement to Commodity Credit Corporation for the advance of funds as provided in the annual appropriation act for the control and eradication of diseases of livestock and poultry. The amount under that advance was $1,853,450, including the interest calculated to June 30 of this year. That money was spent during last fiscal year for the eradication of vesicular exanthema of swine. The remaining part of this sum is $16,728,210, which represents the advances from Commodity Credit Corporation, including calculated interest to June 30, for the eradication of bucellosis, authorized in legislation passed by the Congress 2 years ago. That is Public Law 690, approved August 28, 1954, which was amended by Public Law 465, approved April 2, 1956.

Mr. MARSHALL. Is there any money in this for the eradication of foot-and-mouth disease?

Dr. CLARKSON. No, sir. That last reimbursement was made last year, and we did not have to transfer any funds for foot-and-mouth disease eradication during the last fiscal year, nor have we during this fiscal year. We do not anticipate the need for it unless we should have a recurrence in Mexico or an outbreak in this country.

BRUCELLOSIS ERADICATION

Mr. MARSHALL. What is the status of the program for eradication of brucellosis, and what will be the future requirements?

Dr. CLARKSON. On page 64 in the notes, Mr. Chairman, there is a rather complete statement concerning the brucellosis program. This program is financed not only with the authorization for transfer of funds from Commodity Credit but with the appropriation of funds under "Salaries and expenses," which amounted during the current fiscal year to $3,961,165.

I have these charts which show the accomplishments in terms of certifying free areas where the incidence of the disease has been brought to a very low level. The change from 1954 to December 1956, with the additional funds made available, we were able to increase the number of States from 3 to 5 and numbers of counties from 341 to 589. The work going forward during the remainder of this fiscal year should reach, on June 30, the goal which is shown in the lower part of the chart, with 8 States and Puerto Rico in the modified-certified status and a total of 400 additional counties.

Mr. HORAN. Doctor, by looking at those charts, 1 depicting 1954, 1 depicting 1956 and 1 depicting this year's goal at the end of the fiscal year; I notice in all of those charts Maine and New Hampshire and North Carolina are the 3 States that are completely clear in all 3 of those charts.

Dr. CLARKSON. Well, those three States, Mr. Horan, put on an area blood-testing program, in which we cooperated, several years ago. They tested the cattle in the entire State a sufficient number of times to bring the incidence of brucellosis down to the minimum requirements and slaughtered all the reactors. Since that time they have maintained rather strict requirements on the importation of cattle into their States. They have continued a blood-testing program calculated to maintain their status of comparative freedom from the disease.

Mr. HORAN. I notice that those are the only three that are clear all through the history there—Wisconsin, Minnesota, and my own State are making headway. Does that indicate that it can be eradicated if proper action is taken?

Dr. CLARKSON. The situation indicates very clearly that the application of control procedures on an orderly area basis can be relied upon, first to reduce the incidence of the disease, and eventually to eradicate it.

Mr. HORAN. I notice considerable progress indicated by those charts. Would you supply for the record the list of the States that are entirely free at the present time?

Dr. CLARKSON. The list that are now in the modified-certified free status are North Carolina, Maine, New Hampshire, Washington, Wisconsin, and just within the past month, Delaware.

Mr. HORAN. And Minnesota?

Dr. CLARKSON. No; that is included in the June 30, 1957 goal.

Mr. HORAN. Yes; you have got a couple of spots there. But by June 30 you also expect to have Minnesota completely clear?

Dr. CLARKSON. Yes, sir.

Mr. MARSHALL. Did you have anything more?

Dr. CLARKSON. I think that is all I have, except to say that we have copies of all these charts which we can leave if the committee wishes.

Mr. MARSHALL. We thank you very much, Dr. Clarkson, for your excellent testimony. It is always a pleasure to have you before this committee.

Dr. CLARKSON. Thank you, Mr. Marshall. We appreciate the opportunity to come up here and talk to you about these programs.

FRIDAY, FEBRUARY 1, 1957.

STATE EXPERIMENT STATIONS

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Payments to States, Hawaii, Alaska, and Puerto Rico:			
(a) Payments to agricultural experiment stations	$24,221,973	$28,857,208	$33,222,208
(b) Federal administration	416,245	646,500	781,500
2. Penalty mail			250,000
Total obligations	24,638,218	29,503,708	34,253,708
Financing:			
Unobligated balance no longer available	115,490		
Appropriation	24,753,708	29,503,708	34,253,708

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	57	89	109
	Full-time equivalent of all other positions	1	2	
	Average number of all employees	52	81	100
	Number of employees at end of year	61	88	109
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,209	$5,218	$5,262
	Average grade	GS-7.0	GS-7.0	GS-7.2
01	Personal services:			
	Permanent positions	$331,069	$501,300	$626,800
	Positions other than permanent	2,880	5,700	
	Regular pay above 52-week base	1,615		2,200
	Payment above basic rates	100		
	Total personal services	335,664	507,000	629,000
02	Travel	44,874	60,000	48,000
03	Transportation of things		100	400
04	Communication services	2,042	3,000	253,300
06	Printing and reproduction	3,578	10,000	2,400
07	Other contractual services	4,291	5,000	3,300
	Services performed by other agencies	21,902	41,500	52,200
08	Supplies and materials	1,995	4,800	2,800
09	Equipment	1,670	15,000	2,000
11	Grants, subsidies, and contributions:			
	Payments to States, Hawaii, Alaska, and Puerto Rico	24,221,973	28,857,208	33,222,208
	Contribution to retirement fund			38,000
15	Taxes and assessments	229	100	100
	Total obligations	24,638,218	29,503,708	34,253,708

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$24,753,708	$29,503,708	$34,253,708
Obligated balance brought forward	48,665	44,612	73,320
Restored from certified claims account		100	
Total budget authorizations available	24,802,373	29,548,420	34,327,028
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	24,605,713	29,431,000	34,111,000
Out of prior authorizations	−17,450	44,100	70,000
Total expenditures	24,588,263	29,475,100	34,181,000
Balance no longer available:			
Unobligated (expiring for obligation)	115,490		
Other	54,008		
Obligated balance carried forward	44,612	73,320	146,028
Total expenditures and balances	24,802,373	29,548,420	34,327,028

Mr. MARSHALL. We have next the item of "State experiment stations," page 11 of the committee print and page 157 of the justification. Insert pages 157 and tables A and B of the justification.

(The material referred to is as follows:)

State experiment stations

	Payments to States, Hawaii, Alaska, and Puerto Rico	Penalty mail	Total
Appropriation Act, 1957, and base for 1958	$29,503,708		$29,503,708
Budget estimate, 1958	34,003,708	$250,000	34,253,708
Increase	4,500,000	250,000	4,750,000

Summary of increases, 1958

Payments to States, Hawaii, Alaska, and Puerto Rico: To strengthen and expand research programs at the State agricultural experiment stations	+4,500,000
Penalty mail: For penalty mail costs of State agricultural experiment stations	+250,000

Project statement

Project	1956	1957 (estimated)	Increase		1958 (estimated)
			Retirement costs (Pub-Law 854)	Other	
1. Payments to States, Hawaii, Alaska, and Puerto Rico:					
(a) Hatch Act, as amended by the act of Aug. 11, 1955	$24,138,218	$29,003,708		+$4,500,000	$33,503,708
(b) Agricultural Marketing Act (title II) sec. 204 (b) (Aug. 14, 1946)	500,000	500,000			500,000
Total, payments to States, Hawaii, Alaska, and Puerto Rico	24,638,218	29,503,708		+4,500,000	34,003,708
2. Penalty mail				+250,000	250,000
Unobligated balance	115,490				
Retirement costs (Public Law 854)			[+$33,700]	[+6,300]	[40,000]
Total appropriation or estimate	24,753,708	29,503,708		+4,750,000	34,253,708

TABLE A.—*Distribution of Federal payments to States and expenditures from non-Federal funds for research at State agricultural experiment stations, fiscal year 1956*

State	Federal funds		Total Federal funds	Non-Federal funds	Grand total
	Hatch Act, as amended	Sec. 204 (b) Agricultural Marketing Act			
Alabama	$551,100	$4,260	$555,360	$1,561,228	$2,116,588
Alaska	168,313	4,200	172,513	257,617	430,130
Arizona	212,767	4,000	216,767	605,005	821,772
Arkansas	465,575		465,575	737,568	1,203,143
California	528,845	19,900	548,745	7,751,266	8,300,011
Colorado	255,588	4,900	260,488	988,833	1,249,321
Connecticut	223,903	10,500	234,403	1,032,265	1,266,668
Delaware	177,212	3,000	180,212	357,766	537,978
Florida	308,800	10,530	319,330	3,374,920	3,694,250
Georgia	574,208	12,746	586,954	2,153,169	2,740,123
Hawaii	196,497		196,497	567,107	763,604
Idaho	228,510	4,650	233,160	705,093	938,253
Illinois	544,714	3,800	548,514	2,327,943	2,876,457
Indiana	477,186	34,010	511,196	2,536,033	3,047,229
Iowa	478,218	37,150	515,368	2,728,390	3,243,758
Kansas	359,718	14,800	374,518	1,766,777	2,141,295
Kentucky	569,102	9,894	578,996	1,068,123	1,647,119
Louisiana	413,387	3,500	416,887	2,526,034	2,942,921
Maine	236,311	22,500	258,811	360,902	619,713
Maryland	281,865	13,650	295,515	714,318	1,009,833
Massachusetts	266,268	3,200	269,468	562,300	831,768
Michigan	521,243	58,200	579,443	2,186,365	2,765,808
Minnesota	463,160		463,160	2,544,826	3,007,986
Mississippi	555,021	18,000	573,021	1,351,963	1,924,984
Missouri	508,765	36,475	545,240	853,608	1,398,848
Montana	224,208		224,208	1,086,632	1,310,840
Nebraska	322,285		322,285	1,385,596	1,707,881
Nevada	167,122		167,122	112,960	280,082
New Hampshire	194,387		194,387	172,944	367,331
New Jersey	260,716	10,500	271,216	1,648,055	1,919,271
New Mexico	223,313		223,313	412,399	635,712
New York	536,961	5,800	542,761	4,772,872	5,315,633
North Carolina	748,005		748,005	1,789,751	2,537,756
North Dakota	263,561		263,561	874,537	1,138,098
Ohio	615,147	13,750	628,897	1,764,813	2,393,710
Oklahoma	404,296	23,500	427,796	1,498,735	1,926,531
Oregon	287,280	14,800	302,080	1,922,418	2,224,498
Pennsylvania	681,007	5,572	686,579	1,425,009	2,111,588
Puerto Rico	511,244		511,244	1,304,584	1,815,828
Rhode Island	174,050	3,500	177,550	151,669	329,219
South Carolina	454,224		454,224	739,310	1,193,534
South Dakota	261,799	7,000	268,799	580,317	849,116
Tennessee	574,115	2,500	576,615	897,620	1,474,235
Texas	763,561	26,275	789,836	3,316,942	4,106,778
Utah	203,190	5,000	208,190	645,181	853,371
Vermont	199,923		199,923	137,913	337,836
Virginia	513,179	2,368	515,547	1,240,806	1,756,353
Washington	316,352	30,570	346,922	2,294,078	2,641,000
West Virginia	397,887	2,500	400,387	379,054	779,441
Wisconsin	472,939		472,939	3,534,503	4,007,442
Wyoming	185,131	12,500	197,631	489,969	687,600
Total	19,522,158	500,000	20,022,158	76,198,086	96,220,244
Regional research fund	4,199,815		4,199,815		4,199,815
Administration	416,245		416,245		416,245
Unobligated balance	115,490		115,490		115,490
Total	24,253,708	500,000	24,753,708	76,198,086	100,951,794

TABLE B.—*Appropriations for State experiment stations, fiscal years 1956–58*

State	Fiscal year 1956	Fiscal year 1957	Fiscal year 1958 (estimated)
Payments to States, Hawaii, Alaska, and Puerto Rico:			
Alabama	$551,100	$656,503	$756,358
Alaska	168,313	189,115	208,823
Arizona	212,767	242,744	271,144
Arkansas	465,575	553,050	635,922
California	528,845	623,881	713,916
Colorado	255,588	295,207	332,741
Connecticut	223,903	257,849	288,197
Delaware	177,212	200,374	222,175
Florida	308,800	373,013	422,077
Georgia	574,208	683,290	786,630
Hawaii	196,497	225,902	252,096
Idaho	228,510	263,396	296,082
Illinois	544,714	646,678	742,149
Indiana	477,186	565,279	648,000
Iowa	478,218	566,996	651,101
Kansas	359,718	420,976	479,010
Kentucky	569,102	678,160	781,479
Louisiana	413,387	487,626	557,958
Maine	236,311	271,382	304,607
Maryland	281,865	326,397	368,141
Massachusetts	266,208	305,729	343,114
Michigan	521,243	616,658	707,050
Minnesota	463,160	549,404	631,109
Mississippi	555,021	663,876	767,002
Missouri	508,765	604,872	695,921
Montana	224,208	257,082	288,212
Nebraska	322,285	376,272	427,417
Nevada	167,122	187,956	207,693
New Hampshire	194,387	220,689	245,606
New Jersey	260,716	299,774	336,776
New Mexico	223,313	256,191	287,339
New York	536,961	633,010	723,893
North Carolina	748,005	895,826	1,035,867
North Dakota	263,561	305,093	344,439
Ohio	615,147	730,022	838,851
Oklahoma	404,296	475,107	542,192
Oregon	287,280	333,098	376,504
Pennsylvania	681,007	804,192	920,895
Puerto Rico	511,244	617,032	713,295
Rhode Island	174,050	196,045	216,882
South Carolina	454,224	537,946	617,262
South Dakota	261,799	302,878	341,794
Tennessee	574,115	684,898	789,850
Texas	763,561	911,461	1,051,577
Utah	203,190	231,660	258,630
Vermont	199,923	230,244	256,839
Virginia	513,179	607,773	697,389
Washington	316,352	370,397	419,771
West Virginia	397,887	466,346	531,195
Wisconsin	472,939	560,498	643,448
Wyoming	185,131	209,861	233,290
Subtotal	19,522,158	22,969,708	26,209,708
Regional research fund	4,199,815	5,387,500	6,512,500
Administration	416,245	646,500	781,500
Unobligated balance	115,490		
Payments authorized for Marketing Research, sec. 204 (b), Agricultural Marketing Act [1]	500,000	500,000	500,000
Subtotal	24,753,708	29,503,708	34,003,708
Penalty mail: Reimbursement to Post Office Department for penalty mail costs of State experiment stations directors		[2] 250,000	250,000
Grand total	24,753,708	29,753,708	34,253,708

[1] Allotted to States by projects on the basis of recommendations by a committee of experiment station directors and approved by the State Experiment Stations Division, Agricultural Research Service.
[2] Anticipated supplemental appropriation which will be requested for fiscal year 1957.

Mr. MARSHALL. Dr. Elting, do you wish to testify on this?
Dr. ELTING. Thank you, Mr. Chairman.

GROWTH AND DEVELOPMENT OF EXPERIMENT STATIONS

I would like to lead off in my remarks today with a short review of the growth and development which has occurred in the experiment stations in the States during the postwar years and a little look at the progress which is coming from the research programs of the State experiment stations before we discuss the increases, if I may.

Mr. MARSHALL. Certainly, we will be glad to hear from you.

Dr. ELTING. At the close of the war, in 1946, the experiment stations found themselves somewhat short of staff, and faced a rebuilding program which we have seen develop during the past 10 years. There has been, during that period, a substantial increase in the support of the experiment stations, both from appropriations granted through this committee and at the State level, so that today the States are in a relatively strong position compared with that facing them 10 years ago.

That growth has been witnessed particularly by an expansion of the physical facilities, and especially the established units for conducting research in the States. The substation portion of the experiment station facilities has always been an important one for dealing with those problems of local nature. In 1946 those facilities numbered about 250. Today that number has doubled, so that we find today a system including 508 established field laboratories and substations in addition to the main experiment station in each State, giving us over 560 well-established centers for attacking problems common to the areas involved. Research is being conducted on a successful and productive basis.

That growth has been made possible by the increased support which I mentioned. I think you would be interested in taking a few minutes to examine the increased support, as evidenced on the chart which we are placing before you.

FINANCIAL SUPPORT

In 1947 the States had a total support from both Federal grant and States sources of approximately $35 million. During the current fiscal year that level has increased about threefold to about $100 million, permitting this type of growth which I have mentioned. It has been evidenced by a substantial increase in staff which, at the close of the war, numbered just over 5,000, and which today numbers about 8,400. There is today a strong going program at the State level.

It is a program which gains its strength through 3 or 4 principal measures. The first of those I would mention is the ability of these State units to cope with local problems confronting the farmers in each of the States.

It is significant that the legislation authorizing Federal aid to these stations specified that programs should give due attention to the varying needs and conditions in the several States. That has been a unique feature of their program. It has been greatly enhanced by the expansion of substations and field laboratories, bringing the workers close to the job. At the same time, there has been material growth of facilities at the central station where the more basic aspects of the program are carried on.

A second aspect of their strength is based on the long history of teamwork among the stations, which today is reflected particularly in a strong regional research program that was given particular impetus through the Research and Marketing Act of 1946, and through the strong cooperation between the Department of Agriculture and the State experiment stations. You have heard that cooperation discussed with the preceding witnesses, and it represents one of our great areas of strength.

That brings us, then, to the current situation existing during this fiscal year. The scope of the support is, as I mentioned, about $100 million, of which $29.5 million is derived from the Federal grants that we are discussing today, the balance from non-Federal sources, principally direct State appropriations.

GROWTH OF RESEARCH

There has been a significant growth in each of the past 3 years in the total amount of research, as witnessed by the number of active projects being conducted. That number stands today at 5,770, representing an increase during the current fiscal year since July 1 of just about 500 projects. It testifies to the fact that the States have, so far as possible, employed the increases in Federal grant support during each of the past 3 years to expand the program substantially. The corresponding increases which have been coming from State sources have been largely used to meet the increased cost, particularly increases in salary levels.

FEDERAL AND NON-FEDERAL FUNDS EXPENDED BY STATE EXPERIMENT STATIONS

We have another table that has been of interest to the committee, the one showing the funds support from Federal and State sources for the current fiscal year. It shows that the States do vary considerably in their capacity to appropriate funds for the support of research, but that by and large the States are today receiving about $3 in non-Federal funds for each dollar of Federal grant support they are receiving.

Mr. MARSHALL. Because of the interest in that chart, I would suggest at this point that we insert it in the record.

(The document referred to is as follows:)

Expenditures by agricultural experiment stations, fiscal year 1956

[Includes expenditures under sec. 204 (b) of the Agricultural Marketing Act]

Station	Federal funds	Non-Federal funds	Grand total	Ratio
Alabama	$640,501.23	$1,561,228.02	$2,201,729.25	2.44
Alaska	178,512.60	257,616.78	436,129.38	1.44
Arizona	285,519.25	605,004.66	890,523.91	2.12
Arkansas	535,439.58	737,568.03	1,273,007.61	1.38
California	667,254.85	7,751,265.65	8,418,520.50	11.62
Colorado	384,371.22	988,832.89	1,373,204.11	2.57
Connecticut:				
State	119,064.15	434,074.96	553,139.11	3.64 } 3.49
Storrs	177,101.26	598,190.00	775,291.26	3.38 }
Delaware	203,495.01	357,765.60	561,260.61	1.76
Florida	367,226.23	3,374,919.98	3,742,146.21	9.19
Georgia	707,971.67	2,153,168.81	2,861,140.48	3.04
Hawaii	218,385.88	567,107.31	785,493.19	2.60
Idaho	312,016.38	705,093.31	1,017,109.69	2.26
Illinois	666,360.99	2,327,942.50	2,994,303.49	3.49
Indiana	624,427.37	2,536,032.68	3,160,460.05	4.06
Iowa	700,085.18	2,728,390.34	3,428,475.52	3.90
Kansas	445,497.17	1,766,777.37	2,212,274.54	3.97
Kentucky	668,714.44	1,068,122.66	1,736,837.10	1.60
Louisiana	479,754.20	2,526,033.97	3,005,788.17	5.27
Maine	318,400.82	360,902.30	679,303.12	1.13
Maryland	359,004.15	714,317.54	1,073,321.69	1.99
Massachusetts	340,548.07	562,299.51	902,847.58	1.65
Michigan	659,786.76	2,186,364.65	2,846,151.41	3.31
Minnesota	562,550.11	2,544,826.21	3,107,376.32	4.52
Mississippi	665,318.47	1,351,962.95	2,017,281.42	2.03
Missouri	610,031.38	853,608.21	1,463,639.59	1.40
Montana	309,618.98	1,086,632.21	1,396,251.19	3.51
Nebraska	407,729.61	1,420,469.24	1,828,198.85	3.48
Nevada	211,121.79	112,960.34	324,082.13	.54
New Hampshire	238,527.20	172,944.25	411,471.45	.73
New Jersey	348,145.43	1,648,054.99	1,996,200.42	4.73
New Mexico	284,112.53	412,398.93	696,511.46	1.45
New York:				
Cornell	626,597.27	3,610,852.92	4,237,450.19	5.76 } 6.71
State	85,004.09	1,162,019.66	1,247,023.75	13.67 }
North Carolina	865,320.36	1,789,750.94	2,655,071.30	2.07
North Dakota	294,061.51	874,537.10	1,168,598.61	2.97
Ohio	734,982.13	1,764,813.38	2,499,795.51	2.40
Oklahoma	483,537.98	1,498,734.72	1,982,272.70	3.10
Oregon	407,664.27	1,922,418.14	2,330,082.41	4.72
Pennsylvania	802,757.36	1,425,009.07	2,227,766.43	1.78
Puerto Rico	584,661.72	1,304,583.73	1,889,245.45	2.23
Rhode Island	223,405.03	151,669.48	375,074.51	.68
South Carolina	520,813.92	739,310.00	1,260,123.92	1.42
South Dakota	323,008.50	580,316.63	903,325.13	1.80
Tennessee	663,379.52	897,619.96	1,560,999.48	1.35
Texas	911,194.26	3,316,942.11	4,228,136.37	3.64
Utah	318,526.88	645,181.27	963,708.15	2.03
Vermont	224,794.47	137,913.12	362,707.59	.61
Virginia	612,772.44	1,240,806.44	1,853,578.88	2.02
Washington	505,675.67	2,294,078.09	2,799,753.76	4.54
West Virginia	472,210.64	379,054.16	851,264.80	.80
Wisconsin	593,002.53	3,534,503.00	4,127,505.53	5.96
Wyoming	266,752.82	489,969.12	756,721.94	1.84
Total	24,216,717.33	76,232,959.89	100,449,677.22	3.15

Dr. ELTING. It is significant, I think, that dollarwise the Federal and State support has moved ahead at approximately the same rate during the past 3 years, but during that same period, of course, the ratio of Federal grant to non-Federal funds has narrowed considerably, due to the fact that 3 years ago the ratio was about 1 to 5, whereas today it has narrowed to approximately 1 to 3.

DISTRIBUTION OF FEDERAL GRANT FUNDS

You have one other table before you indicating the distribution of the funds for the current fiscal year among major subject-matter

areas. As you examine that and as we discuss the increase you will gain a better idea of the areas in which the States find the most acute problems and in which they are proposing to strengthen the program.

Mr. MARSHALL. Without objection, we will insert this in the record.

(The document referred to is as follows:)

FEDERAL-GRANT ESTIMATES AT THE STATE AGRICULTURAL EXPERIMENT STATIONS FOR 1957

Salaries and maintenance[1]

1. Agricultural economics and rural life studies	$2,045,636
A. Farm management	942,671
B. Other economic studies	670,901
C. Rural life studies	432,064
2. Marketing	3,244,948
A. Marketing costs, margins and efficiency	1,390,110
B. Evaluation, maintenance, and improvement product quality	339,780
C. Improvements in market location, organization, and facilities	76,281
D. Collection, analysis, and dissemination of market data	1,438,777
3. Utilization	1,019,341
A. Crop products	448,726
B. Animal products	525,893
C. Forest products	44,722
4. Agricultural engineering	1,351,782
A. Buildings and materials	335,919
B. Machinery, equipment, and power	592,470
C. Farm electrification	17,465
D. Land development	405,928
5. Animal production	5,935,868
A. Beef cattle	1,176,576
B. Swine	490,411
C. Sheep and goats	284,093
D. Horses and mules	
E. Dairy	1,342,791
F. Poultry	1,239,703
G. Animal diseases and parasites	1,402,294
6. Field crop production	3,629,754
A. Cereals	866,303
B. Cotton	226,541
C. Fiber and oil crops	147,632
D. Potatoes	139,231
E. Tobacco	117,710
F. Sugar crops	125,282
G. Forage, pastures, and ranges	1,586,979
H. Weed control	420,076

[1] Estimates.

Salaries and maintenance[1]—Continued

7. Horticultural crop production	$1,553,178
A. Deciduous fruits and nuts	359,665
B. Citrus and subtropical fruits	68,149
C. Small fruits	180,507
D. Vegetables (including sweetpotatoes)	689,965
E. Ornamentals and nursery—floriculture	179,442
F. Drug and other special crops	950
G. Weed control	74,500
8. Farm forestry production	285,249
9. Genetics	
10. Soils and plant nutrition	2,604,567
A. Soils (including microbiology)	994,266
B. Morphology, classification, and surveys	284,187
C. Fertilizers	455,847
D. Plant nutrition	540,665
E. Soil moisture relationships	329,602
11. Botany and plant pathology	1,811,627
A. Biology and control of field crop diseases	603,214
B. Biology and control of horticultural crop diseases	686,875
C. Biology and control of forest diseases	68,480
D. Microbiology and antibiotics	295,817
E. General botany	157,241
12. Entomology and zoology	1,598,624
A. Biology and control of crop insects	1,417,582
B. Biology and control of insects affecting animals	113,786
C. Bee culture	19,593
D. Fish, game, and fur production	47,663
13. Human nutrition and home economics	2,095,246
A. Foods and nutrition	1,664,255
B. Textiles and clothing	123,906
C. Housing	32,420
D. Household equipment	167,051
E. Home management	44,167
F. Family economics	39,282
G. Family life and child development	24,165
14. Subject matter not classified elsewhere	
15. Buildings and land (major capital outlay)	
16. State administration and general expenses	1,181,388
Total	[2]28,357,208

[1] Estimates.
[2] Excludes $500,000 for marketing research authorized under sec. 204 (b) of the Research and Marketing Act of 1946.

CONCENTRATED MILK PRODUCT

Dr. ELTING. I am sure the committee is interested in some of the examples of research findings which are emanating from this program, because the program is of benefit to farmers and to our agricultural economy only as results of this research are put into practice on the farm. We have provided in our notes several examples of research accomplishments. I would call your attention to those on pages 172 to 177 of our notes. They include such examples as the work of the Wisconsin station in developing an improved concen-

trated milk product, an area in which we have long worked to develop a satisfactory concentrated milk that would retain largely a fresh milk flavor. Wisconsin seems to have come nearer to accomplishing this goal than any other research unit has to this date, and the consumer acceptance of it indicates that it has real promise in expanding and reducing the cost of distributing milk.

MACHINERY FOR PITTING SOIL FOR REHABILITATION OF RANGES

There are such other practical examples as the one from the Texas station, showing that the use of machinery for pitting the soil in arid range conditions has greatly enhanced the ability to reseed and reestablish grass. This work naturally has been handicapped through the long drought there, but it offers a promising practice for stepping up the rate of rehabilitation of our depleted ranges.

LINING FOR IRRIGATION CANALS

The example from the Colorado station, citing the use of bentonite clay as a lining for irrigation canals, represents a very important forward step, because it is a far cheaper way of reducing water loss through seepage in our irrigation canals than any method that has been developed to date and promises to come into widespread use. There has been important Department cooperation in this as well as in several of the other examples cited.

Mr. MARSHALL. Would you comment briefly on the bee situation?

REPELLENT PROTECTS BEES FROM INSECTICIDES

Dr. ELTING. The example cited here is an attempt to find some way to protect bees, which are so important as pollinating agents in legume crop production and which have suffered, of course, through the use of insecticides to protect those crops against injurious insects. The Oklahoma station reports here the use of a chemical repellent which can be included with the insecticide, and which offers at least some promise of repelling the bees from the plants during the period when the insecticide is in full power there and when otherwise the bees would be killed by the insecticide. It is not an answer to all of the problem, but at least it is one that offers some promise in what has been a troublesome problem.

DWARFISM IN BEEF CATTLE

There are other examples of progress also that I would like to cite. Some of these come in the area of new methods which are developed and which promise greatly to facilitate progress in our research. In that area I would particularly mention a recent report from the Missouri Experiment Station that promises to make it possible to detect in our beef-cattle population those animals that carry the genes for dwarfism. This has been a serious problem. It has been one of the primary objectives in our beef-cattle breeding program.

Heretofore it has been a very time-consuming procedure to detect those animals in the herd that do transmit or are carriers of the dwarf factor. We have tried various things, such as X-raying the skeletal structure, making extensive physical measurements of the skull and

other parts of the anatomy to try to find some set of measures that would be highly correlated with this factor of dwarfism.

The Missouri station has come up with an entirely new approach. They have found that subjecting animals to a fairly high dose of insulin gives quite a specific response, normal animals showing immediate and rapid development in white cell count in the blood, whereas the dwarf animals show practically no reaction to the insulin injection. This is a method that can be applied rapidly. If it is as specific as these preliminary reports indicate, it would be a real boon in testing our breeding herds and providing a basis for eliminating these carriers of dwarfism.

Mr. HORAN. Mr. Chairman, in view of the importance of this experiment, I wonder if Dr. Elting could enlarge his remarks and also give us the names of the men at the Missouri station responsible for this work.

Dr. ELTING. Dr. John Lasley and his coworkers at the Missouri station are the ones who have conducted this experiment. It is not yet in published form. It has come to us only in the way of progress reports, but to my mind it offers a tremendous forward step in this area of detecting carriers. That has been a very tedious thing. Frequently our only sure method was to breed large numbers of noncarrier cows to bulls and then through the progeny establish whether certain bulls were transmitters of this factor. I mention this as an example of where a new method frequently can give us a great boost forward in accomplishing our research.

This promising method for use by beef-cattle breeders in identifying normal-appearing animals which carried the dwarf gene was recently been developed by a six-man research team of the Missouri Agricultural Experiment Station. Test animals are placed under stress by an injection of insulin and their physiological response is measured by changes in the differential and total white cell counts of blood samples taken at hourly intervals for a 2-hour period. The insulin is injected intravenously at the rate of 0.36 units per pound of body weight, using a fast-acting preparation containing zinc-insulin crystals. Blood samples of 2 to 4 milliliters in volume are drawn from the jugular vein of each animal into vials containing an anticoagulant. Differential and total white-cell counts are made promptly on the samples of fresh blood using a standard procedure. The hypothesis underlying this test is that the dwarf gene impairs the ability of the animal to react normally to stress through its effects on the secretion of hormones of the pituitary or adrenal glands.

Studies of more than 175 animals under a wide range of conditions have reflected marked differences between dwarf, dwarf-carriers, and pedigree-clean animals in their response to insulin. Tests were first made on dwarfs which showed very little change in white-cell counts following administration of insulin. It was also noted that blood sugar levels dropped faster and lower in the dwarfs, and that many of them failed to return to normal levels for several hours, suggesting an abnormal pituitary or adrenal response to stress from insulin.

Comparative tests were then made on pedigree-clean cows and carrier cows known to have produced dwarf calves. Results showed that in most instances the dwarf carriers were intermediate between the dwarfs and pedigree-clean animals in respect to the increase in

total white cells per cubic centimeters of blood following administration of insulin. Blood samples from the known carrier animals reflected a steady increase of white cells up to 2 hours after receiving insulin, whereas white cell counts of the pedigree-clean animals increased much more rapidly at first, but were decreasing in number by the end of the second hour. Dwarf carrier and normal cows also differed in other white cell characteristics, particularly the percentages of lymphocytes and neutrophils after insulin injection.

Angus and Hereford cows of the same genotype responded similarly to insulin except that the increase in white cell counts was much less rapid in Angus than it was in the Herefords. The research is continuing to perfect the technique and to identify and evaluate the effects of important environmental variables. Related studies seek to determine the hormone that may be lacking in the dwarf and the mechanism which is responsible for differences in response to insulin by dwarfs, dwarf-carriers, and pedigree-clean animals.

RESISTANCE OF BOLL WEEVILS TO INSECTICIDES

There are other areas of difficulty. I would mention one that is causing concern in the South today—the development of high resistance in cotton boll weevil populations to some of our later insecticides. It is somewhat a repeat of the situation we witnessed with flies and other types of insects, and it has caused a reexamination of this whole area of effective insecticides for cotton. The Louisiana station has estimated that through this research—which led most of their farmers during the past season to turn from the chlorinated hydrocarbons and resort to some of the new phosphate insecticides and to a use of the old standby calcium arsenate—they increased the profits of Louisiana cotton producers by a good many million dollars.

ALTERNATING INSECTICIDES

This whole area has led to another fundamental piece of research by the Conneticut station that suggests we may be faced with the necessity on many of our crops actually of alternating the types of insecticides from one year to the next. If we can have two effective insecticides and alternate them year by year, it may offer one way in which we can prevent this buildup of resistance that seems to be happening so commonly where we use one insecticide year after year.

HYBRID SORGHUM PRODUCTION

There are very important new findings coming out at this time in the area of hybrid sorghum production. That possibly has been mentioned by Dr. Quisenberry, because it represents important cooperative work between the Department and the Texas, Kansas, and Oklahoma Experiment Stations. Through the use of male sterile lines we are now able to produce hybrid sorghum approaching the degree

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of efficiency with which it has long been done in corn. It offers a whole new outlet in sorghum production and is an important milestone.

MAJOR PROBLEMS CONFRONTING AGRICULTURE

We have, in addition to presenting these rather isolated examples of research accomplishments, attempted this year, Mr. Chairman, to assemble accomplishments under the heading of some of the major problems which are confronting our agriculture, hoping that in that way we could get a little better look at how research is alleviating some of these major problem areas. This material was made possible by responses from all of the experiment stations during the summer of 1956. We have simply pulled these examples together under these major problem areas, I would invite your attention to 1 or 2 examples in each of these major areas.

SOIL AND WATER CONSERVATION

The first deals with those accomplishments furthering our soil and water conservation program. It cites first how this is being expedited through the adoption of mechanized equipment and mechanized practices to the hill lands of the Southeast, which has long represented an area of relatively slow progress. The Alabama station has taken the lead in this and has developed a combination of practices and machines that is making possible the application of good soil and water conservation practices on an economical basis.

We have such studies as those reported from the Illinois station, providing more definite evidence on the value of applying conservation practices on the farm. They have shown in one experiment that by applying good conservation operations, by spending somewhat more money on fertilizers and these improved practices they still can significantly increase net income from the farm.

While we have made much progress in this area of developing conservation practices, there are still questions in the minds of many people as to the real economics of their application, and studies such as this provide that convincing information. Such a relatively simple practice as the one developed through Oklahoma research, shows that deep plowing of much of their sandy soil there, bringing more of the clay content of the subsoil to the surface, can be tremendously effective in reducing both wind and water erosion, particularly wind erosion of those light soils.

LAND USE ADJUSTMENT

This area of land use adjustment has been a tedious process and is not moving forward as rapidly as many would like to see, but the adoption of practices coming from the various experiment stations certainly is speeding up the process. Part of that is coming through developing alternative corps, and we specifically mention the use of safflower as a new alternative crop in the Great Plains. The Nebraska station, in cooperation with the Department, has particularly taken the lead on that crop.

The use of new practices of protecting seed plants is making possible an expanded seed production program, particularly in the Northwest. Oregon has taken the lead there in developing methods of in-

suring clean disease-free seed. That is giving real impetus to that area as one of our major seed-producing areas and has overcome a problem that a year or two ago seemed to threaten that industry.

GREATER ECONOMY IN PRODUCTION

I would particularly call your attention to a series of accomplishments cited in the next few pages of this report in the area of accomplishing greater economy of production, because I think in no other area can we point to such substantial progress as this one. It is evident to everyone that if the farmer is to make reasonable profit it must be on the basis of increasing the efficiency of his production. Particularly, as we look to agricultural crops as a source of raw materials for industry we, more than ever, must look to low-priced production because, at the best, agricultural commodities tend to be a relatively high priced source of raw materials for industry. We find in this list a great variety of examples.

There is the work of the Connecticut station in tobacco curing. With changes that have come about in the tobacco industry, the demands are somewhat different than existed a few years earlier, with the use of such processes as the homogenized leaf. They are naturally looking for other processes that will permit those farmers to stay in business, and Connecticut has come up with a process of actually shredding the green leaf of tobacco and then curing it under forced heat. That may give an entirely acceptable product for producing a homogenized wrapper, and they can do it at a fraction of the cost that is involved in drying of the whole leaf as they now practice it. It is simply another example of adapting practices to meet these changing market demands.

We are finding interesting progress in the field of utilizing feeds for livestock. A good example is the work of the Indiana station in developing a type of protein supplement that can be used very effectively with relatively low grade roughages. By using a good supplement of the type developed at Indiana, it is possible to use such low-grade products as corncobs, stalks, straw, and cottonseed hulls with a high degree of success. That is meaning a great deal to beef-cattle producers particularly, permitting them to use a lot of these products that were formerly looked on largely as waste products.

We have made great progress in the application of pesticides through improved spray equipment. We have indicated the results of the Michigan station, where they point out that efficiency in spraying orchards has increased many hundreds of percent. Actually, 1 man today with modern speed equipment can spray 5 times as many acres of orchard as 3 men accomplished 10 or 12 years ago, and is accomplishing it with a considerable reduction in the use of chemicals required. That decrease in both the labor requirement and the amount of chemical required adds up to very substantial savings.

In the area of lessening hazards in farming we find important contributions.

OCCUPATIONAL HAZARDS IN FARMING

Mr. MARSHALL. Where does farming stand as a hazardous occupation as compared with other occupations in the United States?

Dr. ELTING. We are using hazards in this case as one of risk, really. You are asking your question I believe from the standpoint of danger to the operator?

Mr. MARSHALL. That is right.

Dr. ELTING. I think the figures show that farming rates as one of the very hazardous occupations. I do not have the figures percentage-wise, but the annual accident and death rate among farm operators is higher, I am sure, than it is among industrial workers generally. So it certainly would rate as a hazardous occupation.

RISKS IN FARMING

I was approaching the problem here—and I think my word was not well chosen—as reducing risk in farming rather than hazard. It is risk involved in such things as weather and the attack of insects and pests that cannot always be foreseen. It is a risk that farmers assume constantly, but such new work as that in the South on the plant nematodes is promising to alleviate some of that hidden risk that we are only now recognizing as a cause of much greater losses than has been commonly recognized. Of course, a good example of that is the problem you heard discussed here just recently on the soybean cyst nematode. It has been recently found in two new States, and as they now examine the problem there they are convinced that this may well have existed in some of these areas for a number of years and yet had not been identified as the source of declining production.

EXPANDING OUTLETS

Substantial progress is also being made in the field of expanding outlets for some of our commodities, and this extends over the whole range not only of our major crops but many of our minor crops. It may permit some significant shifts in the use of acres diverted from major crops.

I mention such things as the work of the North Central Group in looking at the outlet for Christmas trees. It is becoming a sizable industry. We thought of that essentially as in the Far North, and yet we find Indiana today devoting considerable acreage to the planting of evergreens. That represents a relatively fast turnover in land use and a profitable use for considerable acreage. It is simply an illustration of how minor crops applied over a wide front can help in this land-use adjustment.

The development of alternative crops for those in surplus has, I know, been discussed a number of times, and States are working actively in this field. North Dakota, for instance, has found that their area is well adapted to the production of birdsfoot trefoil seed. This is a legume crop that is finding quite wide acceptance, and seed has been very much in demand. The fact that seed can be successfully produced in North Dakota may well lead to a relatively new industry in that State and perhaps divert acres from wheat.

FARM MECHANIZATION

Significant progress has been made in the field of mechanizing our farm operations. There is particular attention today being devoted to trying to increase the degree of mechanization in livestock produc-

tion, where we have lagged far behind the progress we have made in crop production. It is illustrated by such things as another North Dakota development for a rotating feeder connected with the use of silage, which eliminates a great deal of the hand handling of silage that has always required a large amount of labor.

There are things in progress at the Illinois station that would lead to a considerable degree of automation of some of our farm operations, particularly in the area of feed handling for livestock.

EFFECTIVE USE OF PESTICIDES

We have mentioned already one or two examples pertaining to the use of pesticides. It is an area again in which we are making important progress in the development of new chemicals and more effective ways to apply them. There is, of course, a great deal of emphasis today on the question of holding down pesticide residues on crops, and getting accurate measurements of residues as they result from different methods of using pesticides. That has been made necessary by the amendment to our Food, Drug and Cosmetic Act, which places very narrow tolerances on chemical residues on fresh foods. There is excellent regional cooperation in this area, a pooling of effort, so that we are going to make maximum use of our chemical laboratories in gaining sound data on that problem. Much research is in progress.

IMPROVING NUTRITIONAL STATUS

Important results are being recorded on the nutritive requirements and nutritional status of our population in this country. Particularly good work is going forward in the area of studying the interrelationships of many of our nutrients, which is still a relatively unexplored area.

There is also such basic research going forward as that at the Pennsylvania station in more accurate measurements of heat production and energy output under different types of diets by human subjects. It represents a detailed, painstaking type of research, but one that can add a good deal of knowledge to our more efficient use of food. It is in the category of basic research.

BASIC RESEARCH

We have also shown at the end of this compilation a number of examples of what we would term essentially basic findings. Those may not be immediately applicable to some of our problems but are increasing our basic knowledge.

I mention in that category work in North Dakota on the genetics of flax and wheat. It is represented also by work at the Kentucky station on the use of hormones in controlling plant growth and the work at the Ohio station in the use of antibiotics as a possible way of preserving products, which is another very potentially important area of accomplishment. It is one which is not yet proved, which is not yet authorized in common practice under our food and drug laws, but one which if demonstrated to have merit can then be explored from the standpoint of its applicability. We have reason to believe it may become an entirely feasible and safe procedure for preserving meat and other highly perishable commodities.

SCIENTIFIC MANPOWER

I would leave this discussion, Mr. Chairman, with just a note on how research is at the same time contributing to our scientific manpower pool. We have heard a good deal about the shortage of scientists, and it is significant, I think, to note here that our experiment stations are employing a large number—I do not have an accurate count, but it is estimated in the magnitude of 2,000 graduate students, who are serving part time as research assistants on our approved research projects. They are in that way adding additional hands for our senior scientists. They are expediting the progress of research. They are in process of gaining very valuable experience as they pursue their graduate training, and of course they are quite importantly gaining financial support which is making it possible for many of them to continue graduate training.

I think it is significant to note that the National Science Foundation study has shown that the research assistantship is the most important device for providing financial aid to our graduate students. In fact, in some of the disciplines pertaining to agriculture, 60 percent of the total financial aid for those students is coming through the route of the research assistantship, and it is certainly serving a double purpose there. It represents effective use of research funds, but very importantly it does facilitate training.

Mr. MARSHALL. That is an important item. It is also one that might lead to some difficulty if students are being kept on research work after the research work is completed. What is your answer to that?

Dr. ELTING. It is my judgment, sir, that that is not a serious problem. The average graduate assistant would not be employed on a project more than 2 or 3 years at the maximum. These assignments are not made in the sense of a guaranteed fellowship. The man is simply employed on the basis of the number of hours devoted to research. So I think if we make that distinction that we are employing these assistants to do a specific job that can be terminated, we are not guaranteeing them a fixed stipend as is true with a fellowship, we are not endangering or creating any improper use of research funds.

Mr. MARSHALL. You are supervising that phase of it rather carefully?

Dr. ELTING. Very carefully, yes, sir; and certainly in the administration of the grant funds it has been a firm requirement that in no case can a research assistant be guaranteed a stipend in the sense of a fellowship that might extend over 2 or 3 years, but rather that he be employed as the needs of the project require. I do not see under that a possibility that they would be carried longer than the work would justify.

JUSTIFICATION OF INCREASE

I would like to turn now to the detailed justification of the increases which have been requested for the next fiscal year, which are in the amount of $4,500,000 in direct payment to States, plus $250,000 to cover the costs of penalty mail under the legislation enacted a year ago.

RESEARCH PLANNING IN STATES

In opening this part of my discussion I should like, sir, to refer briefly to an area which we discussed somewhat last year. That is the type of research planning which is constantly going on at the State level and how that planning is represented here in the needs for additional research that would be supported by these increases. Each State through its experiment station director, and through advisory committees and councils, is projecting the needs for additional research, and we can say certainly that the number of new problems presented by the individual States each year in justification of increases represents only a portion of those total long-range needs.

The publication from Michigan which we have handed you is one example of that type of long-range planning, not by the administrators of research but rather by advisory councils at the State level. We could repeat this in many cases. It is not always formalized in this type of publication, although some others have, as is illustrated by a bulletin from Florida a year or so ago which is of a nature somewhat similar to this one from Michigan. We have another shorter publication from the North Dakota station, again illustrating the type of long-range planning that is going on in the individual States.

Each year as budget justifications are developed the individual States contribute a number of their most serious problems or problem areas for which they would propose support or expansion of research as new funds become available. It is that type of problem which we have summarized in our notes and which we have also covered in somewhat more detail in a narrative statement. You may wish to examine that.

SUBJECT MATTER AREAS WHERE INCREASES ARE NEEDED

I would say, Mr. Chairman, that we were requested to prepare this type of statement for the record a year ago, and this is available for the record if you care to cover that much detail. I would add that while the work represented in these notes has not at this stage been reduced to formal research project outlines, it does represent over 600 well-defined problem areas. As funds become available these problem areas would then be developed into specific work plans or research project outlines, which through our review and approval process, constitute the basis on which these Federal grant funds are expended by the individual States. There are increases requested in each of the major areas that we deal with. That subject was referred to by you, Mr. Natcher, on Tuesday, and we provided you at that time some breakdown as to how these increases would be applied.

(The material referred to above is as follows:)

Proposed use of 1958 increase of $4,500,000 by the State agricultural experiment stations, by subject-matter areas

Field of research	Amount	Percentage
Marketing	$869,000	19.3
Economics of production	333,000	7.4
Agricultural engineering	252,000	5.6
Human nutrition and home economics	194,000	4.3
Field crop production	545,000	12.1
Horticultural crop production	203,000	4.5
Forestry production	103,000	2.3
Soil and water conservation	567,000	12.6
Plant diseases	292,000	6.5
Insect control	207,000	4.6
Livestock production	625,000	13.9
Animal diseases and parasites	310,000	6.9
Total	4,500,000	100.0

Dr. ELTING. We have shown that the fields of marketing and animal production represent two areas in which the greatest amount of expansion would take place, but there is further important expansion planned and needed in the field of plant diseases and insects, field and forage crops, and horticultural crops. There is major emphasis, something over 12 percent of the total, in the area of soil and water conservation research, and further increase in the areas of farm mechanization, in the economics of production, and in human nutrition and home economics.

REGIONAL RESEARCH

I should say in connection with this that a great deal of advance planning has gone into the area of regional research. You will recall that the Research and Marketing Act of 1946 specifically set aside 25 percent of the funds appropriated under that authorization to be used for supporting regional research in which 2 or more States were cooperating in the planning and conduct of these problems crossing State lines.

That program has, I think, amazed all of us by the nature and extent of its growth. It has attracted more attention and more dollars to it than we would have anticipated 10 years ago. For the next fiscal year about $6,500,000 of this total appropriation would be set aside as the regional research fund.

It is significant to note that this regional program has attracted some 2½ additional dollars to it for each dollar of specifically earmarked regional money. So for the next fiscal year we actually are talking here in terms of approximately a $20 million program and a program which would be comprised of about 200 carefully planned regional projects. It represents in my judgment a real advance in our process of research planning. It has provided a mechanism for bringing research leaders of common interest together where they may exchange ideas, pool their interests, concentrate on determining the specific job to be done, and then determine which of the cooperators were in the best position to carry out specific phases. It has insured more complete coverage, with a greatly lessened chance of any unnecessary duplication.

There are projected for the next fiscal year 22 such regional projects in addition to the 180 which are in operation this year. I can go into

greater detail, Mr. Chairman, on the nature of the problems covered in the justification if you so desire. I will follow your wishes in that matter. They are covered in considerable detail in the narrative statements which we have laid before you.

Mr. MARSHALL. You mentioned a moment ago that you have about 180 projects.

REGIONAL RESEARCH PROJECTS

Dr. ELTING. Regional projects, sir.

Mr. MARSHALL. How many did you complete last year?

Dr. ELTING. Sir, I have a table which shows the history of regional research from the time it was originated in 1948.

Mr. MARSHALL. Without objection, we will place that in the record at this point.

(The table referred to is as follows:)

Number of regional and interregional research projects by fiscal years

Fiscal year	Begun	Active during year	Closed	Active June 30	Fiscal year	Begun	Active during year	Closed	Active June 30
1948	52	52	0	52	1953	11	75	16	59
1949	2	54	3	51	1954	26	85	11	74
1950	19	70	7	63	1955	47	121	9	112
1951	8	71	2	69	1956	34	146	7	139
1952	0	69	5	64	1957	40	179		

STAFFING

Dr. ELTING. If there are no further questions, Mr. Chairman, I would like to touch briefly on the manpower situation and the ability of the States to staff this program, because I think that question has been very much in our minds.

Mr. MARSHALL. Would you also mention the number of new employees that would be needed?

Dr. ELTING. Yes, sir. We have just received responses from the States as of the January 1 situation on employment under the increases that were provided for the 1957 fiscal year. We find that under that increase the States created approximately 600 new positions and that as of January 1 72 percent of those new positions had been filled. That means that there has been some difficulty in complete staffing of these new programs.

That difficulty has not been entirely uniform with each State, because as you know each State institution determines its own salary scale within the limit of its resources. It means certainly that some of our States are in a stronger competitive position than others. We found that 37 percent of the land-grant colleges, State experiment stations, feel that they are in a relatively poor competitive position on the basis of the prevailing salaries, 34 percent felt that their situation was about average, that they could reasonably compete, and the final 29 percent said that they were in a strong competitive position and had not experienced difficulty in staffing their new program.

It does emphasize the fact that salary scales are very important and that, despite the best efforts that these institutions have made during the past few years to bring their salary scales in line, some of them are still relatively low. That variation is marked. We find, for instance,

that department heads at these institutions cover a wide range, from $7,500 to $14,000. It does mean that those institutions at the lower end of the scale are in a difficult competitive position.

Mr. MARSHALL. Do you have any problems in connection with Federal retirement?

ADMINISTRATIVE FUNDS

Dr. ELTING. The only problem in that area, Mr. Chairman, pertains to Federal employment under the $781,500 which would be available for administration of these funds at the Department level in fiscal year 1958. Three percent of this increase is for administration, and of course retirement funds enter into that item. As I read the figure here, the amount to cover the contribution to retirement under the funds granted to the State Experiment Station Division for administrative purposes would be about $40,000. In that connection, sir, you asked for some breakdown of the personnel that would be involved there.

Mr. MARSHALL. We are interested in the new personnel.

Dr. ELTING. Mr. Chairman, I am sure you are aware that funds are derived from two sources for the State experiment station division. Three percent of the funds provided under the 1946 authorization, and now included as a part of the consolidated bill, are set aside for administration. The amount for 1958 would be $781,500. Under those funds currently we have employed 88 persons, consisting of 36 professional staff and 52 clerical staff. To cover that portion of the funds that come under earlier authorizations, about $8 million, there is an additional allotment from the appropriation "Salaries and expenses, Agricultural Research Service," which it is estimated next year will amount to $268,500.

NEW EMPLOYEES

Mr. MARSHALL. Dr. Elting, could you give us an estimated figure, as firm a figure as you can give, as to how many new employees would be involved in this increase of $4,500,000?

Dr. ELTING. I would assume it would be somewhat of the magnitude involved this year. Of the $4,750,000 increase granted in 1957, the States have reported about 600 new positions created. Those would not be all permanent staff. Some of that would represent research assistantships.

Our record of increase in employment at the State experiment stations during the past 3 years, I think, would be the best measure of that. During fiscal year 1955, there was a net increase of 283 in permanent staff. In fiscal year 1956, there was an increase in permanent staff of 334. I would estimate it would be about that magnitude again this year, and the difference between the 325 to 350 permanent staff and the 600 I mentioned would represent research assistants, or a temporary type of scientific personnel.

Mr. MARSHALL. Can they recruit that many new people with a situation such as we have existing where there is a lack of people trained in agriculture, such as we have today?

Dr. ELTING. That was the basis of the question we asked them as of the first of January. It was on that basis they reported to us that this year out of the 600 projected positions they had on January 1 filled 72 percent of them. It represents a satisfactory, although

certainly not a perfect, record of recruitment. There is certainly competition for this manpower. For instance, we found last year that there were some 200 people shifting from one experiment station to another. One, through competitive bidding, is hired away from another. Perhaps you would be interested in the area in which the experiment stations have recruited this personnel?

Mr. MARSHALL. Yes, we would. We would be interested in that.

TECHNICAL STAFF CHANGES IN STATES

Dr. ELTING. During the last year of which we have complete records, fiscal 1956, the experiment stations added 1,046 new people. Durng that same period they lost from their ranks 712 people, the difference being a new gain again of 334 in permanent staff. Of this thousand people I mentioned as being recruited during that year, some 200 of them were recruited from other experiment stations, 124 were obtained through promotion or transfer within their own ranks, and 164 were obtained from teaching staff. These people transferred from teaching or extension to research.

During that period the States acquired 39 people from the Department of Agriculture. You would be interested to know during that same period they lost 42 people to the Department of Agriculture, so there was not very much gain on either side in that transfer. They gained 27 from other Federal agencies. They recruited 200 from the ranks of graduate students, that is, young students just completing their graduate work.

Mr. VURSELL. What page is that table on?

Dr. ELTING. That table is not in your notes, sir. I will gladly provide a copy of it. It is just a duplicated statement that I have. They acquired 103 from industry and private business, and 22 from the Armed Forces, and 12 from other miscellaneous sources.

Mr. MARSHALL. I note that that is in a rather short statement. I wonder if we might not have that put into the record?

Dr. ELTING. Yes, sir. I have no objection if you would care to place the whole table in the record.

Mr. MARSHALL. I will ask that this table be inserted in the record at this point.

State agricultural experiment stations—technical staff replacements, additions and losses, fiscal year ended June 30, 1956

Former employment or reason for leaving	Replacements and additions	Losses	Net gain or loss
Other experiment station or State employment	200	108	92
Transfer or promotion within station	124	17	107
Teaching or extension	164	84	80
U. S. Department of Agriculture	39	42	−3
Other United States agency	8	10	−2
Point 4 or other foreign assignment	19	58	−39
Student or graduate work	200	61	139
Armed Forces	22	10	12
Leave of absence for other reasons	7	57	−50
Farming	5	2	3
Industry	56	62	−6
Private business	47	38	9
Miscellaneous:			
Personal		38	−38
Retired		46	−46
Deceased		25	−25
Unknown	155	54	101
Total	1,046	712	+334

PROSPECTS FOR RECRUITMENT OF TECHNICAL PERSONNEL

Dr. ELTING. In response to your question of whether they can recruit adequate people, we think that the situation next year will not be very different from that which prevailed this year. We have information on the number of graduates in training. It is reported from the land-grant institutions this year, that approximately 2,900 will complete their master's degree work, and nearly 1,600 will complete their Ph.D. work in those areas from which we recruit, that is, in those disciplines relating to agriculture.

That represents a sizeable pool for which at least we can compete. We believe that both the Department and the State experiment stations will get a reasonable share of that new crop of scientists coming on to the market. Beyond that there is competition, as illustrated in this table, with industry, with other research institutions, etc. Our ability to compete really will measure our success in obtaining those. I would predict a year from now our record would be essentially the same as we have experienced this year.

Mr. MARSHALL. Mr. Natcher, do you have any questions?

Mr. NATCHER. Dr. Elting, I want to thank you for the fine statement you have made to this committee. I know that all of the other members of this committee feel that your particular Division has many accomplishments, and I say to you that these accomplishments have extended over a period of some 20 years to my certain knowledge.

NEED FOR NEW AND EXPANDED RESEARCH

From time to time we hear of cost-price squeezes, and the hardships of our farmers. I personally think that this is one place where we can help the American farmer more than any other place that I know of. I am particularly interested in the statement which shows that after a careful evaluation of problems in relation to current research programs by the State agricultural experiment stations, it indicates a particular need for a new and expanded research in the development of new and extended uses for farm products through marketing and utilization research, to obtain a greater return for the producer and a better product for the consumer.

PLANT GROWTH STUDIES

I think that this is certainly an important field at the present time, and much more so than it has ever been. I was particularly interested, Dr. Elting, in your statement concerning the special study that is now underway at the University of Kentucky Experiment Station concerning the study of hormones and the part they play in the controlling of plant growth.

I wonder if you could just insert a short statement, Dr. Elting, concerning this particular study, in the record at this point?

Dr. ELTING. Yes, sir. I would be happy to.

(The statement referred to is as follows:)

Scientists at the Kentucky Agricultural Experiment Station found that the hormone, betanaphthoxyacetic acid, induced tomato fruit set. The hormone increased size and earliness of the fruit and improved quality. The material may be applied as a complete plant spray along with fungicides and insecticides. Activation of the hormone was increased when boron was added. The set was

improved, the fruit matured earlier, and were of large size and better quality. The combination spray was also found to be beneficial to seeded lima beans and other fruit crops. The Kentucky Agricultural Experiment Station, through the Kentucky research foundation has developed an activated hormone spray based on the results of this research that should be useful to market growers and home gardners.

TOBACCO RESEARCH

Mr. NATCHER. Another matter that you called to our attention, Dr. Elting, that means a great deal to my home State and to the tobacco States generally is the importance of tobacco research at the present time in order to meet the present market demands. As you well know, Dr. Elting, there have been considerable changes in the last 2 years in the manufacture of cigarettes—quality changes of recent date. As I pointed out on 1 or 2 occasions, Dr. Elting, in Kentucky during the year of 1955 the total amount received for agricultural commodities amounted to $533 million; 44.9 percent of this entire total was derived from the sale of tobacco. That shows how much it means to my home State.

I say to you quite frankly, Dr. Elting, that we are in need today of more tobacco research. It is imperative that we have it today.

I certainly want you to know that the people in my section of the United States appreciate the study that you now have underway and the studies that you will have underway in the future concerning tobacco.

We are fortunate in having at the University of Kentucky a friend of yours, Dr. Elting, and an outstanding man, Dean Frank Welch. Ordinarily I do not agree with all of the appointments that the President makes, but I say to you quite frankly when he appointed Dean Frank Welch as a member of the Committee recently to make a study concerning utilization of agricultural commodities, this was certainly a fine selection.

Dr. Elting, I for one appreciate the fine work that your Division is accomplishing at the present time.

Dr. ELTING. Thank you very much, sir.

Mr. MARSHALL. Mr. Horan.

ECONOMICS OF PRODUCTION

Mr. HORAN. Well, we had a very interesting discussion with Dr. Sherman Johnson when he was before us. I hesitate to bring this up, it is such an obsession with me, I have to admit. I noticed in your roundup of the work that is being done cooperatively on certain subjects by the various State experiment stations and their subsidiaries on the economics of production, on page 17 you have this to say, and I will read it so that we will have it properly before us:

Eight States are proposing studies seeking the most profitable pattern of work organization on the farm, the types of forage, the methods of handling and feeding that fit in best with available labor, machines, and facilities. A number of States propose to study what combination of known practices and organization of small and low income farms are most profitable. They plan to obtain facts and figures on capital and additional land requirements for small farm operators using modern practices to earn satisfactory incomes per family. Studies are proposed to determine the production responses to changing prices. Several States will seek ways to increase the net income of producers without adding substantially to total production. Thirty-four States have indicated a

need to initiate 53 specific lines of research having to do with the economics of production. The proposals are based on requests from farmers and others who recognize farming has become a highly scientific and competitive business.

MINIMUM ECONOMIC FARM UNIT

One of the difficulties that has always existed in rural life and down through the years, and which is as a matter of fact the curse of Central Europe today, is the decimation of the grandfather's farm among the progeny that follow and wish to stay there. In this country it is becoming an increasing problem, and so for several years I have been plaguing the Department of Agriculture for studies of farms that would constitute an economic unit.

This comes before this subcommittee in its most responsible form here, as far as we are concerned, when we make appropriations for the Farmers' Home Administration. We send the moneys out to the several States and the farmers apply for a loan and then fieldmen have to determine whether that loan is feasible. Is the farm big enough? Will it produce enough in return to give the farmer a living and retire the loan? We are not loaning money to farmers just to effect their eventual bankruptcy. We know there is a problem connected with tenant farming. Is the operation large enough to give one-third to the landlord and two-thirds of the production to the operator? Can he live and have a reasonable return on his time and his intelligence?

We know that conditions exist in practically every State that ought to be corrected. We know that our better men in the Farmers' Home Administration—and I have worked with them—have refused loans because they have had to tell the loanee or the prospective loanee, "You cannot possibly make out on that operation."

So I have been plaguing Dr. Johnson to come up nationwide and that involves, Dr. Johnson says, about 100 areas, at least, with what the human and natural resources are. The types of soil, and the rainfall, and the available water, and the availability of markets. I have asked him to come up with what is a bare minimum under given circumstances, such as complete ownership, tenant farming, rental. What is a minimum on which, for instance, the Farmers' Home Administration could advance a loan to a man who has the background and the industry to make a success of farming? There is no point to us appropriating money to make failures out of Americans.

I do wish Dr. Shaw, that some way or other we could have a little handshaking down in your shop and get the experiment stations to cooperating on this. I think you need it, and you need it badly.

Dr. SHAW. This particular work you are discussing, the one that Dr. Sherman Johnson discussed with you the other day, has already been the basis of discussion with each of the four land-grant college regions, looking toward a joint effort between the Department and the State experiment stations. It would be a cooperative study with the States contributing, as indicated here, to that joint study.

COLUMBIA BASIN STUDIES

Mr. HORAN. Of course, I do not know if you are aware of it, but we had a hearing out in the Columbia Basin area, the State College of Washington, in conjunction at that time with the Bureau of Reclama-

tion, and we had a prestudy of what constituted an economic unit, so that when we opened up the Columbia Basin and put water on it and opened it up for settlement, we would have as nearly as we could predetermine a family sized farm that could succeed.

Since we have opened up the basin for settlement that has come up for considerable controversy and considerable discussion on both sides, some saying that the size of the farms should be much greater than it is, and others saying that it is all right the way it is. The hearing was held, and undoubtedly you had observers there from the Extension Service experiment stations, and, of course, Fred Aandahl, the Assistant Secretary of the Interior, was out there. I have not heard their findings yet, but undoubtedly something needs to be done. Personally I think that sort of research and findings could provide a tremendous service for American agriculture, because it would provide the necessary knowledge to a prospective farmer as to what he had to have in order to consider himself able to compete and to succeed and to retire whatever investment or debt he had to incur.

We have just last fall had to raise the minimum assets that an individual had to have before he could move on to the basin from $4,500 to $8,500, which is in itself a considerable sum. They credit certain items that he might have acquired, like a truck, or a panel truck, or any other machinery he has. They were given a value in that amount that was required. Still that is a considerable raise and to me it hoists a warning flag that we ought to supply some essential and up-to-date information to our people.

INVESTMENTS REQUIRED FOR FARMING

For one thing, I would like to have the city people understand that farming ranks pretty high among those industries which require a fairly large capital investment per man-year. It will be right up there with the rest of them by the time you figure in the value of the land, the value of the equipment, to say nothing of the other side of the coin, that I feel the farmer is worthy of his hire and is just as entitled to a guaranteed annual wage as anyone else in the United States.

FAMILY FARM UNIT

I think fundamental and basic studies done by the Department in cooperaiton between your shop and Dr. Johnson's shop, and brought up to date annually, taking into consideration the fact that we do have a lot of part-time farmers—and they are on the increase around our metropolitan areas, although a part-time farmer creates a special problem because that assumes he is going to put in at least 40 hours a week at some other activity, and there are only certain types of farming where if he tried to put in a money crop that he could work it and expect to succeed at it, unless he has a big family that might run the farm while he is away. That creates a problem but those studies are, I am sure, being gone into by the State of Washington, because we have that problem right in our lap.

I just raise that question because I do feel it would do a lot of good. I made the assertion the other day that there ought to be a law not to allow a landlord to encourage anyone to become a sharecropper unless he could give him enough land so that he was protected against acreage

allotments, for instance. However, we cannot do that. You might have a State law governing that, but the Federal Government cannot do it. I said the other day, and I repeat now, that the only alternative is to make information and intelligence as widespread as possible.

That is all, Mr. Chairman.

Mr. MARSHALL. Mr. Vursell.

Mr. VURSELL. Mr. Chairman, the gentleman from Washington has almost persuaded me just from hearing him talk on the subject so often. It is a proper matter for research, but it occurs to me that it is a pretty big study before you get through with it, because to a certain extent you would have to take into consideration the human element and the various acreages which produce less and less, and diversified farming which would make your acreage figures in certain localities different from what it would be in others. However, I think you have raised a very good point.

I do not think that we can get too much information pointing toward the basic things that go into farming because we, sitting around this table, and others in the Congress, have to approach these matters looking 200 to 300 years ahead. I say that because we expect this country to be populated for a very long time, and as the population increases, the land values doubtless will continue to increase, but we will not be bothered then with any surpluses, regardless of what you people in the scientific research department can come up with ultimately. With the world population and our population at home, our most valued asset other than our boys and girls being raised, will be the land upon which they live and from which they must draw their sustenance for life in the future and for exports to other countries.

I have enjoyed Dr. Elting's testimony, what I heard of it. I had a rheumatic pain and had to step outside for a few minutes to get myself back in shape. I am heartily in agreement with the thought expressed here this afternoon by one other member of the committee that finding out what to do for the farmers through research science and the application of it through the Extension Service is our best opportunity to help the farmers of the present and those of the future.

I have been very much interested in everything that has been said, and I feel sure that this committee has rendered a great and outstanding service, in the last number of years, by increasing the opportunity for research and the Extension Service which in my judgment brings more benefit to the farmers than anything else we have or will have in the near future.

That is all I have to say.

FARMING IN COLUMBIA BASIN

Mr. HORAN. Could I comment in sort of a rebuttal here? When I was a boy I grew up with the fruit industry in the State of Washington and their old ad used to be, "Dollars grow on trees; 5 acres a living and 10 acres a fortune." Of course, times have changed a little since then and we did try to apply what you mentioned there in studies that were made in the late twenties and thirties before the Columbia Basin was opened. They classified all of the soil from 1 to 7, and then we passed the Anti-Speculation Act in 1933, which was 1 of the first pieces of legislation that I helped to manage through the Congress. We so divided the plots from 40 acres to 160 acres, depending on the type of

soil. Then we set up experiment stations in the basin, as you are aware, to determine the acceptability of various crops in that area. So that fundamental work was done.

For one thing, you could raise all of the sugar beets on that Columbia Basin that the whole Nation could consume. We were quite certain we could, only we did not have any acreage history, so that is out. When hay is at a good price we can raise lots of hay on it.

The human element, Charley, is where the Farmers' Home Administration comes in, because they frown on advancing a loan to anyone who does not have a history of competence either with the subject-matter of what he wants to do on the farm, or at least some past experience. All of those things, of course, differ throughout the United States, but that does not make any difference.

We have farming all over the United States too, and we have 48 States. They all have experiment stations and an Extension Service. So it is not an insurmountable task, but it has to be kept current with the marketing conditions and the changes in the fiscal situation of the Nation.

I hope we can continue to make progress in this field, Dr. Shaw.

Mr. VURSELL. I would like to compliment Mr. Horan for provoking thought on this subject. I think it is important and I admire his persistence. Ultimately he may be very highly respected for staying at this point until he gets something done about it.

PENALTY MAIL

Mr. MARSHALL. Dr. Elting, there is a request in here for $250,000 for penalty mail. Would you comment on that?

Dr. ELTING. Yes, Mr. Chairman. It pertains to legislation which was enacted last year under the Penalty Mail Act which provided that the Department of Agriculture should pay to the Post Office Department a sum equivalent to the penalty mail costs of the experiment stations under section 6 of the Hatch Act, as amended. This section provides that publications and reports of progress from those stations may be mailed free of charge to farmers and other appropriate recipients of the experiment station publications.

This estimate of $250,000 was based on the number of pieces of mail which were reported as having been mailed under the free-mailing privilege from the experiment stations during the past year and it is a figure that I understand would be adjusted each year in line with the actual reporting of the number of pieces of mail that the experiment stations send under the penalty wrapper.

Mr. MARSHALL. How did you handle this particular thing last year?

Dr. ELTING. For the current fiscal year I do not think the decision has been made. Dr. Shaw, do you know?

Mr. WHEELER. The new law was effective with the fiscal year 1957. The budget shows that there will be a supplemental submitted in this same amount to take care of it for this current fiscal year, and this amount will take care of it for 1958. Prior to that time there was no requirement to pay the Post Office Department for this mailing.

Mr. MARSHALL. Since you are now making this request of this committee for funds to pay for the postage, has a corresponding reduction been made in the Post Office Department?

Mr. WHEELER. No. It does not work that way. It simply serves to reduce the postal deficit, the same as the sums we pay them out of our appropriation for our departmental mailing.

RESEARCH ON STRATEGIC AND CRITICAL AGRICULTURAL MATERIALS

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Investigations of domestic production of vegetable tannins	$73,624	$75,900	$78,400
2. Development of a domestic source of castor oil	118,199	121,000	125,000
3. Research on domestic production of strategic fibers	113,397	117,100	121,600
Total obligations	305,220	314,000	325,000
Financing: Unobligated balance no longer available	8,780		
Appropriation	314,000	314,000	325,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
Total number of permanent positions	42	40	40
Full-time equivalent of all other positions	10	9	8
Average number of all employees	47	48	47
Number of employees at end of year	45	50	50
Average salaries and grades:			
General schedule grades:			
Average salary	$5,209	$5,218	$5,262
Average grade	GS–7.0	GS–7.0	GS–7.2
Ungraded positions: Average salary	$3,829	$3,911	$3,909
01 Personal services:			
Permanent positions	$173,422	$177,000	$177,000
Positions other than permanent	25,134	25,000	24,300
Regular pay above 52-week base	679		700
Payment above basic rates	6		
Total personal services	199,241	202,000	202,000
02 Travel	12,361	13,000	13,000
03 Transportation of things	1,811	2,000	2,000
04 Communication services	315	500	500
05 Rents and utility services	5,903	6,000	6,000
06 Printing and reproduction	240	500	500
07 Other contractural services	18,515	19,000	19,000
Services performed by other agencies	27,254	29,100	29,100
08 Supplies and materials	25,573	27,400	27,400
09 Equipment	13,299	14,000	14,000
11 Grants, subsidies, and contributions:			
Contribution to retirement fund			11,000
15 Taxes and assessments	708	500	500
Total obligations	305,220	314,000	325,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$314,000	$314,000	$325,000
Obligated balance brought forward	40,599	39,802	52,682
Restored from certified claims account		830	
Total budget authorizations available	354,599	354,632	377,682
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	269,474	269,500	285,000
Out of prior authorizations	32,483	32,450	39,500
Total expenditures	301,957	301,950	324,500
Balance no longer available:			
Unobligated (expiring for obligation)	8,780		
Other	4,060		
Obligated balance carried forward	39,802	52,682	53,182
Total expenditures and balances	354,599	354,632	377,682

Mr. MARSHALL. We will now take up the next item which is "Research on strategic and critical agricultural materials." The committee will find these items on page 144 and on page 517 in the justifications. We will insert at this point in the record pages 517 through 520 of the justifications.

(Pp. 517 to 520 are as follows:)

RESEARCH ON STRATEGIC AND CRITICAL AGRICULTURAL MATERIALS

PURPOSE STATEMENT

The Department of Agriculture makes scientific, technologic, and economic investigations of the feasibility of developing domestic sources of supplies of any agricultural material or substitutes for such materials determined by the Office of Defense Mobilization to be strategic and critical. Investigations are being conducted on the domestic production of vegetable tannins, castor oil, and strategic fibers.

Appropriated funds:	
Appropriated, 1957	$314,000
Budget estimate, 1958	325,000

Research on strategic and critical agricultural materials

Appropriation act, 1957 and base for 1958	$314,000
Budget estimate, 1958	325,000
Increase (for contribution to the retirement fund pursuant to Public Law 854)	+11,000

Project statement

Project	1956	1957 (estimated)	Retirement costs (Public Law 854)	1958 (estimated)
1. Investigations of domestic production of vegetable tannins	$73,624	$75,900	+$2,500	$78,400
2. Development of a domestic source of castor oil	118,199	121,000	+4,000	125,000
3. Research on domestic production of strategic fibers	113,397	117,100	+4,500	121,600
Unobligated balance	8,780			
Total retirement costs (Public Law 854)			[+11,000]	[11,000]
Total appropriation or estimate	314,000	314,000	+11,000	325,000

STATUS OF PROGRAM

Under this appropriation the Department of Agriculture makes scientific, technologic, and economic investigations of the feasibility of developing domestic sources of supplies of any agricultural material or substitutes for such materials determined by the Office of Defense Mobilization to be strategic and critical.

Current activities include research on domestic production of vegetable tannins, castor oil, and strategic fibers as follows:

1. Tannin investigations are devoted to the possible production of tanning materials from crops that can be produced in the United States, especially from canaigre, a desert plant grown in the Southwestern United States. Experimental plantings have been established in Arizona. Production problems encountered in growing this crop on a semicommercial scale are being studied and improved varieties developed. Tannin extract has been prepared in a pilot plant on a scale large enough to permit its commercial evaluation in the production of heavy leather. Improvements in extraction processes are also being studied.

2. Current work on castor oil, which is an important source for strategically valuable special purpose lubricants and plastics, is devoted to problems encountered in lowering the cost of the domestic production of this oil through the development of superior varieties adapted to mechanical handling in the various areas of production, and the development of improved equipment for growing and harvesting the crop.

3. Studies in the field of strategic fibers are directed toward problems encountered in developing the domestic production of hard fibers and hard fiber substitutes (sansevieria, phormium, and hemp) that can be used for such purposes as lines and ropes on naval vessels, and of kenaf, a soft fiber with qualities similar to jute. Production research is conducted on breeding, disease, and quality problems, and engineering research on the development of improved planting, harvesting, and handling equipment.

Selected examples of recent progress

1. Leather tanned successfully with 100 percent canaigre root tannin.—The development of a domestically cultivated source of vegetable tannin that can be used 100 percent for the production of military leathers is needed because, under war conditions, imports of tanning material of this type might not be available. More than 10 tons of dried canaigre extract have been produced and the extract used successfully to tan steer hides into sole leather on a pilot-scale experiment at a commercial tannery. This leather has been used successfully in the manufacture of 1,900 pairs of shoes for the Quartermaster Corps which are now being tested in field evaluation trials.

2. New breeding method accelerates castor bean improvement.—An intensive study in cooperation with Oklahoma has resulted in discovery of a system of inheritance in castor beans resembling the male sterility character used so successfully for breeding high-yielding and disease-resistant varieties of onions, sorghum, sugar beets, and other crops. Completely pistillate (female) castor bean lines that can be used for the production of commercial hybrid seed have been developed from several important varieties, including Cimarron and Custer. The female inheritance factor can be transferred easily to other desirable parental lines, thus promising to accelerate the program for breeding disease-resistant hybrids for the Midsouth and easily harvestable dwarf hybrids for irrigated production in the southern Great Plains and the Southwest. The cost of commercial hybrid castor bean seed should be materially reduced when the new female lines come into general use.

3. New dwarf-type castor bean developed.—This new variety which was developed by the Department and the Texas Agricultural Experiment Station, is particularly adapted to production on irrigated land in the Texas High Plains and in southern Oklahoma. In field scale tests the variety has yielded over a ton of beans per acre and far exceeds any previous variety in suitability for mechanical harvesting. It shows extreme resistance to wind damage that is a frequent cause of loss with other varieties in the southern Great Plains. Seed of this variety will be available in a substantial amount to growers for planting in 1957.

4. Field harvester and ribboner developed for woody fiber crops.—A prototype field machine for harvesting and ribboning kenaf, which is also suitable for ramie or other woody fiber crops, has been developed. This machine produces ribbons practically free of the woody portions of the plant, which are left in the field. Thus, the volume and weight to be handled are greatly reduced, with resulting reductions in labor requirements and costs. Principles used in the

machine were incorporated in three privately built harvester-ribboners which were used on a commercial planting of ramie during the 1956 harvesting season.

Mr. MARSHALL. This request is for an increase in the retirement contribution of $11,000. Would you comment upon this?

NATURE OF RESEARCH

Dr. IRVING. Yes, sir. I will be glad to, Mr. Chairman. Under this appropriaiton the Department of Agriculture makes scientific, technologic, and economic investigations of the feasibility of developing domestic sources of supplies of agricultural materials or substitutes for such materials determined by the Office of Defense Mobilization to be strategic and critical. By a "strategic and critical" material is meant one that we cannot do without in time of emergency, one that we cannot produce now domestically, and one for which we have no adequate domestic substitute.

Currently we are doing work in three areas. We are doing research on the development of canaigre for use in the production of tannin which can be used in the tanning of animal hides to make leather.

The second line of work concerns the development of a source of castor oil for use in lubricants and plastics and other strategic uses, as well as in industrial uses generally.

The third and last is the development of domestic sources of hard and soft fibers as substitutes for hemp and jute.

It is our plan in the fiscal year 1958 to continue these investigations at the same level as in fiscal year 1957.

Several of these lines of work appear to have promise not only from the standpoint of serving our critical and strategic needs but they also may provide us with economic domestic crops.

This is particularly true in the case of castor oil and in two of the hard fiber sources, sansevieria and phormium. For this reason we are expending some of our funds under our "Salaries and expenses" appropriation to supplement work we are doing under this appropriation item. We think that these three crops might, with additional research and developmental work, develop into successful new crops in the United States under peacetime situations.

REVIEW OF PLANS

The Office of Defense Mobilization, as we indicated earlier, suggests these areas of research. They have reviewed our plans for this year and have approved them. I have a copy of a letter coming from the Office of Defense Mobilization which I would be glad to submit for your information.

Mr. MARSHALL. Without objection it will be made a part of the record.

(The letter is as follows:)

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF DEFENSE MOBILIZATION,
Washington, D. C., January 9, 1957.

Hon. B. T. SHAW,
Administrator, Agricultural Research Service, Department of Agriculture, Washington, D. C.

DEAR MR. SHAW: This is in reply to your letter of December 17, 1956, which outlined the Department of Agriculture's proposed research programs on certain materials for the fiscal year 1958, as provided for in section 7 (b) of Public Law

520 (79th Cong.). It is also noted that you are proposing that in 1958 the appropriation, "Research on strategic and critical agricultural materials," be transferred to the research subappropriation of the Department of Agriculture.

We believe that continuation of the research programs leading to the development of domestic sources of vegetable tannins, castor oil, and fiber plants is desirable and, therefore, endorse the proposed research programs. We furthermore have no objection to the transfer of the appropriation, "Research on strategic and critical materials," to the research subappropriation of the Department of Agriculture.

Sincerely yours,

ARTHUR S. FLEMMING, *Director.*

Dr. IRVING. The status of our program and the progress made in these several lines is given on pages 519 and 520 of the notes. I shall be glad to elaborate upon this information if you wish me to, or answer questions if you have them.

RELATIONSHIP TO SIMILAR RESEARCH WORK

Mr. MARSHALL. One question I have concerning these items, and perhaps it is a matter that you might answer, Dr. Shaw. Just how does this work tie in to other research of a similar nature and under the regular research funds?

Dr. SHAW. Actually, Mr. Marshall, this work is done by the same groups that do our other research. We have some special staff working on these problems and they are supervised by the people doing our other work in these fields.

We feel there would be some improvement in our budgetary presentations if this item were combined with our other work. They are closely related. If they were combined we think we can satisfy the needs of the defense agencies and would expect to respond to their needs just the same as we do now. It would appear to us there would be some advantages if this item were consolidated with our other appropriation.

Take the matter of castor beans, or any of the others mentioned. In our efforts to find new crops for the United States certainly those we will look to first are those that we cannot yet produce in this country and that we are going to have to have. So our objectives in developing new crops and our objectives for developing sources of strategic and critical materials are along similar lines.

GUAYULE

Mr. MARSHALL. You were doing some work a few years ago with guayule. What has happened to that?

Dr. IRVING. Our research on guayule consists of standby research on living material to be held in reserve in case we again have occasion to depend on guayule as a source of natural rubber. This work is not being carried under this appropriation item but under "Salaries and expenses."

DIALDEHYDE STARCH

Mr. HORAN. What was that material Dr. Hilbert had yesterday? Dialdehyde?

Dr. SHAW. Dialdehyde starch.

Mr. HORAN. He had samples of leather here and I wondered if you had made any studies as to the economics of tannin, or in your

investigations on tannin if you had made any studies on using the canaigre root and the dialdehyde starch.

Dr. IRVING. We have not had opportunity to make direct comparisons as yet because the dialdehyde starch development is not far enough along. We have made estimates on canaigre, and we now regard canaigre as a tanning source as not promising except under emergency conditions. The situation is one in which the cost will not permit canaigre to compete with imported vegetable tannin as long as we can import it. Meantime we are looking very closely at dialdehyde starch as a feasible agent for tanning hides.

Mr. HORAN. I am no judge at all but it looks like we are doing a fairly good job on the samples he had here. That is all. I do want to comment that I think these items could be easily incorporated within the similar fields of investigation rather than be carried as a separate item.

That is all, Mr. Chairman.

KENAF

Mr. MARSHALL. In your description of the status of your program, in discussing the strategic fibers, you mentioned kenaf. What kind of a plant is that?

Dr. IRVING. Dr. Quisenberry can tell you better than I can about that.

Mr. MARSHALL. That will be fine.

Dr. QUISENBERRY. Kenaf is an annual plant that grows up to 5 or 6 feet. It resembles okra or hibiscus and grows much like hemp. The fiber is obtained from the stem of the plant. We have developed various disease-resistant strains and machinery to harvest it fairly successfully in the field and to partly decorticate it in the field. This way we do not have to bring so much trash and rubbish into the plant to go through the final retting process.

Mr. MARSHALL. What would be its advantages over hemp?

Dr. QUISENBERRY. We have been told by the people that use hemp fiber that we have come along so far in the development of these new fibers that we would have to have a very serious emergency before they would use hemp fiber extensively. On the advice of the Office of Defense Mobilization and others we have ceased to work with hemp, feeling that kenaf or sansevieria would be much better.

Also, Mr. Marshall, you might be interested to know that with other funds we are looking at kenaf as a source of pulp fiber and are finding that the plant can possibly be grown in a much wider area than Florida.

Mr. MARSHALL. Am I correct or incorrect in the information that I have? I was under the impression that the machinery used for the processing of hemp was pretty much under the control of a Belgian cartel. Would you know about that?

Dr. QUISENBERRY. I do not know about that, Mr. Marshall.

Mr. MARSHALL. I was wondering if the machinery for working with kenaf, or using it after it was produced, would run into the same difficulty. Do you know about that?

Dr. QUISENBERRY. I do not believe we will have any difficulty. Our agricultural engineers working down at Belle Glade, Fla., have machinery that handles it very well. They have made certain developments for decorticating and drying, and to the best of my knowledge

they do not feel there would be any difficulty in getting adequate machinery if the time ever came that they needed it.

Mr. MARSHALL. Thank you. This committee is always appreciative of the work that you are doing.

Dr. Shaw, I am sure every member of this committee is intensely interested in the work that is being done in the Research Service. I do not think any of us could be otherwise, knowing how important it is to the farmer and other people of this country. We know that, as far as the farm people of this country are concerned, they are faced with some terrific problems at the present time.

Due to the efforts of the research people, they have in a number of instances been able to cut their production costs, which has been of extreme value to the consumers of this country because they have been able to get fine quality agricultural commodities at a low cost.

The farmer himself and his family are placed at a disadvantage in that they do not have the control of their marketing facilities. They do have with their production facilities. I think for that reason they are depending more and more upon the research people to find some answer so that they can protect their economic security through the efforts that you people put forth. In this field, market protection is of utmost importance.

Again I want to thank you all for appearing before our committee.

Dr. SHAW. Thank you very much, sir.

Dr. IRVING. Thank you, sir.

Mr. MARSHALL. The committee stands adjourned until 1 p. m. Monday.

FEBRUARY 4, 1957.

EXTENSION SERVICE

WITNESSES

ERVIN L. PETERSON, ASSISTANT SECRETARY OF AGRICULTURE
C. M. FERGUSON, ADMINISTRATOR, EXTENSION SERVICE
P. V. KEPNER, DEPUTY ADMINISTRATOR, EXTENSION SERVICE
L. M. SCHRUBEN, ASSISTANT ADMINISTRATOR, EXTENSION SERVICE
JOSEPH C. WHEELER, DIRECTOR OF FINANCE AND BUDGET OFFICER, DEPARTMENT OF AGRICULTURE

COOPERATIVE EXTENSION WORK, PAYMENTS AND EXPENSES

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Payments to States, Hawaii, Alaska, and Puerto Rico:			
(a) Payments for cooperative agricultural extension work under Smith-Lever Act	$42,951,571	$48,370,000	$52,720,000
(b) Payments and contracts under the Agricultural Marketing Act	1,258,140	1,495,000	1,645,000
2. Retirement costs for extension agents			5,260,000
3. Penalty mail	1,650,000	1,650,000	2,164,000
4. Federal Extension Service	1,902,943	2,000,000	2,341,000
Total obligations	47,762,654	53,515,000	64,130,000
Financing:			
Unobligated balance no longer available	357,346		
Appropriation (adjusted)	48,120,000	53,515,000	64,130,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	256	257	274
	Full-time equivalent of all other positions	2	1	1
	Average number of all employees	230	248	267
	Number of employees at end of year	227	252	269
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$6,324	$6,486	$6,543
	Average grade	GS–8.3	GS–8.5	GS–8.5
01	Personal services:			
	Permanent positions	$1,458,522	$1,602,481	$1,744,077
	Positions other than permanent	6,785	3,665	1,835
	Regular pay above 52-week base	5,703	----------	6,665
	Payment above basic rates	945	----------	----------
	Other payments for personal services	6,295	5,909	5,909
	Total personal services	1,478,250	1,612,055	1,758,486
02	Travel	205,966	200,000	235,000
03	Transportation of things	42,322	34,600	44,814
04	Communication services	23,970	20,000	25,000
	Penalty mail for cooperative extension agents and State extension directors	1,650,000	1,650,000	2,164,000
05	Rents and utility services	594	400	400
06	Printing and reproduction	85,283	80,000	90,000
07	Other contractual services	347,239	150,000	155,000
	Services performed by other agencies	25,796	22,000	33,000
08	Supplies and materials	14,500	10,000	16,000
09	Equipment	14,951	10,000	16,000
11	Grants, subsidies, and contributions:			
	Payments to States, Hawaii, Alaska, and Puerto Rico	43,872,911	49,725,000	54,225,000
	Contribution to retirement fund	----------	----------	5,366,000
15	Taxes and assessments	872	945	1,300
	Total obligations	47,762,654	53,515,000	64,130,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriations:			
"Cooperative extension work, payments and expenses, Extension Service"	----------	----------	$64,130,000
"Payments to States, Hawaii, Alaska, and Puerto Rico, Extension Service"	$45,475,000	$49,865,000	----------
"Salaries and expenses, Federal Extension Service"	3,570,000	3,650,000	----------
Total appropriations	49,045,000	53,515,000	64,130,000
Transferred to "Marketing research and service, Agricultural Marketing Service" (70 Stat. 161)	—925,000	----------	----------
Adjusted appropriation	48,120,000	53,515,000	64,130,000
Obligated balance brought forward	677,546	812,029	813,029
Total budget authorizations available	48,797,546	54,327,029	64,943,029
EXPENDITURES AND BALANCES			
Expenditures (out of current authorizations):			
"Cooperative extension work payments and expenses, Extension Service"	----------	----------	63,332,000
"Payments to States, Hawaii, Alaska, and Puerto Rico, Extension Service"	43,966,411	49,750,160	----------
"Salaries and expenses, Federal Extension Service"	2,989,577	3,085,000	----------
Expenditures (out of prior authorizations):			
"Payments to States, Hawaii, Alaska, and Puerto Rico, Extension Service"	36,376	115,300	107,000
"Salaries and expenses, Federal Extension Service"	581,301	563,540	565,000
Total expenditures	47,573,665	53,514,000	64,004,000
Balance no longer available:			
Unobligated (expiring for obligation)	357,346	----------	----------
Other	54,506	----------	----------
Obligated balance carried forward	812,029	813,029	939,029
Total expenditures and balances	48,797,546	54,327,029	64,943,029

Mr. MARSHALL. At this point we will insert in the record, pages 196 through 200 and tables 1 through 3 of the justification.

(The material referred to is as follows:)

EXTENSION SERVICE

PURPOSE STATEMENT

The function of the nationwide system of cooperative Federal-State extension work in agriculture and home economics, authorized and conducted under the Smith-Lever Act, as amended, is to take research results, technological advancements, and situation and program facts of the Department of Agriculture and the State agricultural colleges and experiment stations, and incorporate them into a national educational program which will provide the means by which people can effectively solve their farm and home problems.

The purpose of the Cooperative Extension Service is to assist the people of the United States by providing them with useful and practical information on subjects relating to agriculture, home economics, and marketing, and to encourage the application of such information through the giving of instructions and practical demonstrations and other appropriate means.

Among the major end objectives of this work are to—

1. Improve farm efficiency and farm incomes.
2. Develop, improve, and conserve agricultural resources.
3. Adjust agricultural production more in line with effective market demands.
4. Expand markets for agricultural products.
5. Reduce marketing costs.
6. Improve home and community living conditions.
7. Develop an informed and competent rural youth.
8. Work with local institutions and groups to assist them in more nearly balancing available labor with industry and agricultural requirements.

To accomplish these and other objectives the activities of the entire cooperative extension organization are directed largely toward:

(*a*) Insuring the economic stability of farm families by increasing their net income through the application of science and technology resulting from research in agriculture and home economics and related subjects. This is accomplished through teaching the application of science and technology in reducing costs, increasing efficiency, improving quality, and reducing losses in farm production, improving home operations, developing nad conserving soil, water, and human resources, and improving marketing methods.

(*b*) Increasing the efficiency of market operations by encouraging the application of research by handlers, processors, wholesalers, retailers, and those engaged in transportation and storage of agricultural products. This reduces wastes, lowers costs of marketing, expands market outlets, and improves the quality of products for consumers.

(*c*) Improving family living through promoting the adoption of better nutrition and health measures, improving housing and farm home facilities, wider use of labor-saving equipment and methods, the adoption of farm and home safety measures, and the development and use of community health and recreational facilities.

(*d*) Assisting youth to understand the application of science to farming, homemaking, and marketing through 4–H Club work and training youth to accept their full responsibility as citizens.

(*e*) Assisting institutions and groups in organizing available resources and encouraging the development of additional resources in disadvantaged areas under the rural development program, in order to improve the level of living of the people of those areas.

The Cooperative Extension Service is financed from Federal, State, county, and local sources. These funds are used within the States for the employment of county agents, home demonstration agents, 4–H Club agents, State specialists, and others who conduct among rural people the joint educational programs adapted to local problems and conditions.

The Federal Extension Service, the educational arm of the United States Department of Agriculture, provides leadership, counsel, and assistance to the extension services in the 51 States and Territories including county extension offices in more than 3,000 counties. The Federal Extension Service, as a

partner in the cooperative extension effort, is responsible for administering the provisions of Federal laws authorizing extension work; helping to maintain a modern, efficient, and dynamic extension system in each State and Territory; coordinating the work among the States in cooperation with committees of State directors and through other means; pioneering in new educational methods; evaluating the results of work performed; maintaining liaison with research, service, adjustment, and regulatory agencies of the Department; coordinating all educational work of the Department; and cooperating with other departments of Government and private organizations in matters relating to extension education.

On November 30, 1956, there were approximately 14,000 State and county extension workers attached to the State organizations, and 258 Federal employees, 247 of whom were in Washington.

	Appropriated, 1957	Budget estimates, 1958
Appropriated funds:		
Payments to States, Hawaii, Alaska, and Puerto Rico	$49,865,000	$54,365,000
Retirement costs for extension agents		5,260,000
Penalty mail (for cooperative extension agents and State extension directors)	1,650,000	2,164,000
Federal Extension Service	2,000,000	2,341,000
Total, appropriated funds	53,515,000	64,130,000

REVISION OF APPROPRIATION STRUCTURE

The 1958 estimates reflect a revision of the appropriation structure for the Extension Service to consolidate within a single mainhead appropriation account the four separate projects (one of which is new, covering retirement costs of extension agents) for the agricultural extension program. These adjustments will simplify and clarify budgetary presentation. A comparison of the revised structure with that reflected in the 1957 budget, is as follows:

Appropriation and project structure in the 1957 budget

Payments to States, Hawaii, Alaska, and Puerto Rico:
1. Payments for cooperative agricultural extension work under Smith-Lever Act.
2. Payments and contracts under the Agricultural Marketing Act.

Salaries and expenses, Federal Extension Service:
1. Coordination, administration, and program leadership of cooperative extension work.
2. Penalty mail for cooperative extension agents.

Appropriation and project structure proposed in the 1958 Department estimates

Cooperative extension work, payments and expenses:
1. Payments to States, Hawaii, Alaska, and Puerto Rico:
   (*a*) Payments for cooperative agricultural extension work under Smith-Lever Act.
   (*b*) Payments and contracts under the Agricultural Marketing Act.
2. Retirement costs for extension agents.
3. Penalty mail (for cooperative extension agents and State extension directors).
4. Federal Extension Service.

Cooperative extension work, payments and expenses

	Payments to States, Hawaii, Alaska, and Puerto Rico	Retirement costs for extension agents	Penalty mail	Federal Extension Service	Total
Appropriation act, 1957 and base for 1958	$49,865,000		$1,650,000	$2,000,000	$53,515,000
Budget estimate, 1958	54,365,000	$5,260,000	2,164,000	2,341,000	64,130,000
Increase	+4,500,000	+5,260,000	+514,000	+341,000	+10,615,000

Summary of increases, 1958

Payments to States, Hawaii, Alaska, and Puerto Rico:	
To further strengthen State and county extension work	+$3,050,000
To provide for more intensive educational work in low income areas under the rural development program	+1,300,000
To expand the marketing educational program	+150,000
Total increases for payments to States, Hawaii, Alaska, and Puerto Rico	4,500,000
Retirement costs for extension agents: To provide for the employer's contribution to the retirement fund for cooperative extension agents pursuant to Public Law 854	+5,260,000
Penalty mail: To provide for penalty mail costs of State extension directors pursuant to Public Law 705	+514,000
Federal Extension Service:	
To strengthen the administration of the Extension Service programs	+244,460
For contributions to the retirement fund pursuant to Public Law 854	+96,540
Total increases for Federal Extension Service	**341,000**

Project statement

Project	1956	1957 (estimated)	Increase		1958 (estimated)
			Retirement costs (Public Law 854)	Other	
1. Payments to States, Hawaii, Alaska, and Puerto Rico:					
(a) Payments for cooperative agricultural extension work under Smith-Lever Act	$42,951,571	$48,370,000		+$4,350,000	$52,720,000
(b) Payments and contracts under the Agricultural Marketing Act	1,258,140	1,495,000		+150,000	1,645,000
2. Retirement costs for extension agents			(3)+$4,880,000	+380,000	5,260,000
3. Penalty mail (for extension agents and State extension directors)	1,650,000	1,650,000		+514,000	2,164,000
4. Federal Extension Service	1,902,943	2,000,000	(6)+96,540	+244,460	2,341,000
Unobligated balance	357,346				
Total retirement costs (Public Law 854)			[+4,976,540]	[+389,460]	[5,366,000]
Total available or estimate	48,120,000	53,515,000	+4,976,540	+5,638,460	64,130,000
Transferred to "Marketing research and service, Agricultural Marketing Service"	+925,000				
Total appropriation or estimate	49,045,000	53,515,000			

TABLE I.—*Sources of funds allotted for cooperative extension work in States, Alaska, Hawaii, and Puerto Rico for the fiscal year ending June 30, 1957*

States	Grand total	Total Federal funds	Total within the States	Funds from Federal sources		Funds from within the States		
				Smith-Lever Act as amended	Agricultural Marketing Act [1] (title II)	State and college	County	Nonpublic sources
Alabama	$3,430,162.15	$1,773,184.61	$1,656,977.54	$1,746,869.61	$26,315.00	$983,177.54	$673,800.00	
Arizona	607,854.50	253,081.39	354,773.11	253,081.39		307,013.11	47,760.00	
Arkansas	2,414,334.83	1,455,272.08	959,062.75	1,455,272.08		528,648.75	369,322.00	$31,092.00
California	5,486,894.36	1,260,868.01	4,226,026.35	1,218,384.01	42,484.00	2,979,107.35	1,246,919.00	
Colorado	1,353,637.08	507,894.08	845,743.00	501,384.08	6,510.00	421,000.00	424,035.00	708.00
Connecticut	809,700.49	255,032.49	554,668.00	248,339.49	6,693.00	310,333.00	230,085.00	14,250.00
Delaware	291,946.29	145,046.29	146,900.00	130,046.29	15,000.00	133,050.00	1,550.00	12,300.00
Florida	1,994,767.94	571,726.94	1,423,041.00	561,826.94	9,900.00	782,352.00	640,689.00	
Georgia	3,548,269.35	1,921,220.35	1,627,049.00	1,876,370.35	44,850.00	988,208.00	638,841.00	
Idaho	1,040,201.00	376,497.92	663,703.08	371,997.92	4,500.00	370,843.08	272,860.00	20,000.00
Illinois	3,792,878.86	1,490,392.86	2,302,486.00	1,466,192.86	24,200.00	1,018,500.00		1,283,986.00
Indiana	3,181,273.86	1,265,145.25	1,916,128.61	1,224,145.25	41,000.00	983,070.00	918,058.61	15,000.00
Iowa	3,805,100.87	1,361,680.87	2,443,420.00	1,316,780.87	44,900.00	981,420.00	1,450,000.00	12,000.00
Kansas	3,294,187.59	968,997.59	2,325,190.00	929,912.59	39,085.00	534,210.00	1,719,900.00	71,080.00
Kentucky	3,109,680.80	1,798,480.80	1,311,200.00	1,744,280.80	54,200.00	828,000.00	483,200.00	
Louisiana	3,259,939.84	1,219,176.55	2,040,763.29	1,170,194.55	48,982.00	1,768,699.76	261,797.53	10,266.00
Maine	724,678.95	352,384.78	372,294.17	335,284.78	17,100.00	257,428.17	114,866.00	
Maryland	1,721,973.94	496,994.94	1,224,979.00	456,844.94	40,150.00	913,673.00	311,306.00	
Massachusetts	1,423,236.47	381,541.47	1,041,685.00	349,486.47	32,055.00	387,275.00	654,410.00	
Michigan	4,348,627.21	1,503,787.79	2,844,839.42	1,355,198.79	148,589.00	2,082,500.00	676,403.00	85,936.42
Minnesota	2,434,378.89	1,300,536.66	1,133,842.23	1,283,661.66	16,875.00	501,843.00	631,999.23	
Mississippi	3,483,460.93	1,853,521.54	1,629,939.39	1,824,041.54	29,480.00	862,500.00	716,602.92	50,836.47
Missouri	3,202,477.83	1,626,421.96	1,576,055.87	1,565,129.96	61,292.00	867,975.09	560,699.00	147,381.78
Montana	1,141,767.24	405,889.68	735,877.56	397,009.68	8,880.00	346,395.56	389,482.00	
Nebraska	1,992,923.56	786,086.38	1,206,837.18	776,186.38	9,900.00	751,977.18	450,000.00	4,860.00
Nevada	452,295.13	178,901.63	273,393.50	169,211.63	9,690.00	184,073.00	89,320.50	
New Hampshire	525,799.44	178,402.43	347,397.01	169,875.43	8,527.00	222,147.01	120,850.00	4,400.00
New Jersey	1,577,112.96	362,603.79	1,214,509.17	345,103.79	17,500.00	685,954.00	524,859.17	3,696.00
New Mexico	1,036,282.04	431,281.72	605,000.32	408,686.72	22,595.00	470,000.32	135,000.00	
New York	5,727,388.47	1,287,510.82	4,439,877.65	1,250,010.82	37,500.00	1,908,900.65	2,159,207.00	371,770.00
North Carolina	5,930,143.98	2,459,136.98	3,471,007.00	2,399,125.98	60,011.00	2,118,807.00	1,352,200.00	
North Dakota	1,140,109.57	562,035.57	578,074.00	548,635.57	13,400.00	188,000.00	390,074.00	
Ohio	3,269,073.87	1,707,540.87	1,561,533.00	1,666,372.87	41,168.00	808,132.00	711,489.00	41,912.00
Oklahoma	2,728,164.26	1,322,987.26	1,405,177.00	1,246,527.26	76,460.00	1,000,777.00	343,000.00	61,400.00

TABLE I.—*Sources of funds allotted for cooperative extension work in States, Alaska, Hawaii, and Puerto Rico for the fiscal year ending June 30, 1957*—Continued

States	Grand total	Total Federal funds	Total within the States	Funds from Federal sources		Funds from within the States		
				Smith-Lever Act as amended	Agricultural Marketing Act [1] (title II)	State and college	County	Nonpublic sources
Oregon	$2,401,755.29	$560,423.27	$1,841,332.02	$522,908.27	$37,515.00	$1,329,468.02	$511,864.00	
Pennsylvania	3,380,592.94	1,656,330.94	1,724,262.00	1,640,875.94	15,455.90	1,272,018.00	450,000.00	$2,244.00
Rhode Island	238,471.32	97,953.82	140,517.50	94,141.82	3,812.00	112,740.50	23,300.00	4,477.00
South Carolina	2,370,538.08	1,296,985.74	1,073,552.34	1,289,235.74	7,750.00	915,000.00	152,072.34	6,480.00
South Dakota	1,262,508.93	554,128.93	708,380.00	549,078.93	5,050.00	497,240.00	206,500.00	4,640.00
Tennessee	3,191,489.49	1,799,564.49	1,391,925.00	1,763,851.49	35,713.00	900,000.00	491,925.00	
Texas	5,853,693.58	2,837,193.43	3,016,500.15	2,811,669.43	25,524.00	1,110,192.00	1,904,888.15	1,420.00
Utah	736,688.98	296,165.60	440,523.38	282,120.60	14,045.00	312,000.00	128,523.38	
Vermont	622,751.22	230,091.43	392,659.79	225,011.43	5,080.00	268,400.79	124,250.00	
Virginia	3,547,064.96	1,456,522.96	2,090,542.00	1,419,152.96	37,370.00	1,668,155.00	422,387.00	
Washington	1,889,296.69	657,279.34	1,232,017.35	641,213.34	16,066.00	725,212.28	506,505.07	300.00
West Virginia	1,574,577.27	894,527.61	680,049.66	890,808.61	3,719.00	420,709.66	256,340.00	3,000.00
Wisconsin	3,194,767.35	1,315,412.76	1,879,354.59	1,274,112.76	41,300.00	713,505.00	1,165,849.59	
Wyoming	743,744.78	258,105.12	485,639.66	254,105.12	4,000.00	331,416.66	154,223.00	
Alaska	180,015.00	80,744.21	99,270.79	79,244.21	1,500.00	98,170.79		1,100.00
Hawaii	683,909.79	246,736.29	437,173.50	231,736.29	15,000.00	437,173.50		
Puerto Rico	2,405,872.56	1,461,359.56	944,513.00	1,461,359.56		928,858.00		15,655.00
Unallotted	179,370.15	179,370.15		177,900.15	1,470.00			
Regional contracts	164,840.00	164,840.00			164,840.00			
Grand total	118,902,662.93	49,865,000.00	69,037,662.93	48,370,000.00	1,495,000.00	40,516,259.77	26,209,212.49	2,312,190.67

[1] Preliminary distribution.

TABLE II.—*Extension Service appropriations for the States, Hawaii, Alaska, and Puerto Rico*

	1957	Proposed increase, 1958	Total proposed for 1958
Payments to States based on rural and farm population Smith-Lever Act, sec. 3 (b) and sec. 3 (c) 2):			
Alabama	$1,730,540	$102,877	$1,833,417
Arizona	233,082	13,450	246,532
Arkansas	1,415,272	81,618	1,496,890
California	1,191,385	90,585	1,281,970
Colorado	436,131	24,888	461,019
Connecticut	248,339	15,891	264,230
Delaware	121,195	5,185	126,380
Florida	561,826	39,314	601,140
Georgia	1,808,040	107,238	1,915,278
Idaho	329,998	18,819	348,817
Illinois	1,458,443	97,386	1,555,829
Indiana	1,212,395	81,435	1,293,830
Iowa	1,316,780	83,143	1,399,923
Kansas	890,413	50,539	940,952
Kentucky	1,700,280	107,207	1,807,487
Louisiana	1,128,824	65,911	1,194,735
Maine	321,706	19,489	341,195
Maryland	450,495	30,165	480,660
Massachusetts	349,487	24,705	374,192
Michigan	1,327,359	91,012	1,418,371
Minnesota	1,260,081	80,154	1,340,235
Mississippi	1,780,002	106,963	1,886,965
Missouri	1,492,870	91,836	1,584,706
Montana	328,710	16,866	345,576
Nebraska	746,840	41,907	788,747
Nevada	93,112	2,623	95,735
New Hampshire	169,875	9,089	178,964
New Jersey	345,104	24,217	369,321
New Mexico	298,847	16,897	315,744
New York	1,250,010	91,653	1,341,663
North Carolina	2,305,197	153,110	2,458,307
North Dakota	511,636	27,145	538,781
Ohio	1,651,163	114,100	1,765,263
Oklahoma	1,205,827	61,854	1,267,681
Oregon	468,908	32,239	501,147
Pennsylvania	1,634,876	123,952	1,758,828
Rhode Island	94,141	3,995	98,136
South Carolina	1,246,836	77,165	1,324,001
South Dakota	513,078	26,627	539,705
Tennessee	1,719,851	109,251	1,829,102
Texas	2,774,310	153,201	2,927,511
Utah	222,120	11,682	233,802
Vermont	213,012	11,193	224,205
Virginia	1,398,792	90,067	1,488,859
Washington	583,013	39,711	622,724
West Virginia	863,110	59,048	922,158
Wisconsin	1,253,433	81,709	1,335,142
Wyoming	173,605	7,229	180,834
Alaska	73,245	2,592	75,837
Hawaii	231,737	10,706	242,443
Puerto Rico	1,461,360	98,362	1,559,722
Subtotal	46,596,691	2,928,000	49,524,691
Special need funds, secs. 3 (b) and 3 (c) 1 of Smith-Lever Act	1,133,309	122,000	1,255,309
Rural development funds, sec. 8 of Smith-Lever Act	640,000	1,300,000	1,940,000
Agricultural Marketing Act funds (including contracts)	1,495,000	150,000	1,645,000
Total payments and contracts	49,865,000	4,500,000	54,365,000
Retirement costs:			
Federal share of retirement costs for cooperative extension employees		5,260,000	5,260,000
Penalty mail:			
Reimbursement to Post Office for penalty mail for Extension Service	[1] 1,650,000	514,000	2,164,000
Grand total	51,515,000	10,274,000	61,789,000

[1] Excludes anticipated supplemental appropriation in the amount of $514,000 included in the budget in 1957 for State directors' mailings.

TABLE III.—*Statement of direct payments to and contracts with States, Hawaii, Alaska, and Puerto Rico, indicating those requiring offset by States and Territories, those not requiring such offset, and basis of distribution as estimated for 1958.*

Item	Total estimate 1958	Basis of allotment	Amount paid without offset	Amount requiring offset
Payments to States, Hawaii, Alaska, and Puerto Rico.	$52,720,000			
Smith-Lever Act:				
Sec. 3 (b)		$31,597,279 (frozen by sec. 3 (b) of Public Law 83).	$14,513,808	$17,083,471
		$300,000 (for Puerto Rico; specified by law).		300,000
Sec. 3 (c)		$18,882,721 ($9,063,706, farm population $9,063,706, rural population; $755,309, special needs).		18,882,721
Sec. 8		$1,940,000 (rural development; on basis of special needs).	1,940,000	
Payments and contracts under the Agricultural Marketing Act.	1,645,000	$1,645,000 (basis of approved projects and contracts).	[1] 140,000	1,505,000
Total, direct Federal payments.	54,365,000	$54,365,000	16,593,808	37,771,192

[1] Regional marketing contracts.

GENERAL STATEMENT

Mr. MARSHALL. Mr. Secretary, do you have a general statement?

Mr. PETERSON. Yes, Mr. Chairman.

Mr. MARSHALL. Will you present your statement, please?

Mr. PETERSON. Mr. Chairman and members of the committee, we have recently reviewed with this committee the research carried on by the Agricultural Research Service and the experiment stations of the land-grant colleges.

Today we appreciate the opportunity of appearing before this committee of the Congress to present for your consideration the work of the Extension Service, together with budget proposals for Federal support of that Service for the ensuing fiscal year. The Extension Service is the agency of the Department responsible for taking the results of research directly to farm people and to marketing agencies, and assisting them in applying the research results to their own businesses.

This Service, as you know, is somewhat unique in that it is a cooperative undertaking between the Federal Government and State and local governments. Each of these governmental units contributes to the financing of the work, to giving it the most effective focus and direction, and to conducting the program in over 3,000 counties of the country.

There are many features of extension programs that are common to all counties. However, the Extension Service operates on the principle of adjusting its services to local needs—as every county and every community has problems and conditions peculiar to it. Hence the necessity for building programs from the ground up, with the people concerned, and with the help and guidance that can be brought to bear from both the State college and the Department of Agriculture. This framework of active cooperation between all three units of Government promotes the most effective utilization of the Service's

resources. This, we are convinced, is in the interest of both the general public and individual rural families as well.

The enduring strength of American agriculture lies in the ability of farm families to organize, manage, finance, and operate their own farms on a sound, efficient, and continuing basis. The magnitude and complexity of current-day farming operations are well known to you. The problems of farm operators are so many and subject to such rapid changes that individual farm families need all the information pertinent to them which is available. They also need counsel and assistance in analyzing their individual situations and opportunities, and in applying the technical, economic, and other information to their own problems.

It is through the full development of the abilities of farm families that we can best be assured of the maintenance of the family farm as the dominant element in American agriculture. The work of the Extension Service is designed and conducted to help these families develop these abilities—to enable farm families to apply to their own situations the findings of science, the essential skills in management, and the art of better living. This applies to both the farm and the home, as in farming the two are inseparable. It applies also to the youth of the farm families—the future managers of our farms and farm homes.

RECENT EMPHASIS OF EXTENSION WORK

The Extension Service during the past few years, through the use of increased Federal, State, and county financial support, and through the effort thus made possible, has made helpful advancements in its services to farm people. Without elaboration I would like to cite a few of the major points of emphasis. Among these are: More intensive efforts on improving farm operations; reducing cash costs without sacrificing efficiency; developing economically adequate farm units; conserving and further improving the natural resources of land, water, and forests in a sound utilization program; and applying all the results of research, both old and new, essential to modern-day farming.

These are major areas of concern to the families on all family-size farms. They are matters of critical significance to the younger farm families just getting established in farming in this period of high capital investment and high cash operating costs. Hence particular efforts are being made to be of service to these younger families at a very critical period for each of them.

However, all rural residents are not operators of economic-sized farming units—and many fall in the category of strictly rural residents.

In this latter category we find the increasing number of people having their homes in the country and their occupations in an urban area. This trend is so apparent in some areas that it could almost be characterized as a rapid urbanization of the rural community. This creates problems of effectively absorbing these people, many of whom have strictly urban backgrounds, into the local economic and community structure. It creates problems of schools, transportation, sanitation, recreation, demands for counsel with respect to home-food production, home management, home beautification, additional applicants for 4–H Club training, and many more.

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These developments have great significance for the farm families of such areas who look to the Extension Service for leadership in meeting these situations. It means an increasing workload for extension workers and adds demands on their time and energy which cannot be ignored.

PART-TIME FARMERS

In between the family-sized farm and the nonfarm rural resident is a very large group of part-time farmers. Many of these families with very inadequate incomes depend largely on agriculture as a source of revenue. These people are now utilizing, and many will continue to utilize, the physical resources of land for at least a part of their income. Some have the possibility of developing economic family-sized farm units. Others will need to find other employment to supplement, at least in part, their farming enterprise if they are to develop an adequate level of living.

It is in respect to this group that activities of the Department of Agriculture and other departments of Government are being intensified in the rural development program. The Extension Service has at least a dual responsibility in this effort, which is of major significance.

The first is to counsel with these individual farm families in helping them to determine how to make the most of their agricultural opportunities. If these cannot be developed to a reasonable state of adequacy, then to advise with them as to how they might find other sources of employment which could supplement their farm income. Both such possible accomplishments will contribute not only to the improvement of the welfare of these individual families, but also will contribute to the economic and social stability of the communities in which they reside.

CONTRIBUTION TO RURAL DEVELOPMENT

The other responsibility of the Extension Service is to provide counsel and guidance to locally organized rural development committees undertaking to bring about improvement in local public services, to develop new opportunities for employment, and in other ways to bring about improvements in local conditions. The Extension Service, out of its long experience in helping groups of people to organize and function as groups, is in a strategic position to make a major contribution to the rural development program through such assistance.

EDUCATIONAL PROGRAMS IN MARKETING

The economic welfare of farm people is not solely determined, however, by their ability to manage and operate their farms and homes. It is also conditioned by the efficiency of the marketing system through which their products must flow to reach the ultimate consumer. The Extension Service over the past few years has been intensifying and broadening its educational programs with respect to the marketing and utilization of agricultural products.

This work needs to be further expanded both in the interest of farmer use and understanding of marketing processes and in the interest of the public in general.

A final point I would emphasize with respect to the job of the Extension Service is the responsibility to create an awareness on the part of farm people of other programs of the Department of Agriculture which the Congress has authorized to be put into effect, and which affect farm people directly. As the educational arm of the Department of Agriculture the Extension Service explains the purposes and objectives of such programs, how they can be used, and what steps farmers need to take to avail themselves of these programs. Although administrative agencies must take the responsibility for explaining the operative procedures with respect to programs which they administer, farmers expect the Extension Service to advise them as to how they can utilize these programs in the conduct of their farm business to accomplish the results for which they were created.

These are just some of the major facets of the responsibilities and functions of the Extension Service.

Mr. Ferguson, the Administrator of the Federal Extension Service, and members of his staff are present to respond to such examination into the details of extension work as the members of this committee may wish to make.

Statement of Administrator, Extension Service

Mr. Marshall. Thank you, Mr. Secretary.

The committee has the efficient Administrator of the Extension Service before us. We would like to hear from you at this time, Mr. Ferguson.

Mr. Ferguson. Thank you, Mr. Chairman, and members of the committee.

I appreciate the privilege of presenting for the consideration of this committee a few salient points with respect to the work of the Extension Service. They are largely in the nature of a progress report supplementing the statement that Assistant Secretary Peterson has just made.

As you know, the Extension Service has been striving diligently over the past few years to adjust its services to farm people more nearly in line with their requests and needs under the exacting requirements of modern-day farming conditions. These requirements have dictated the need for going beyond group educational methods alone, such as meetings, demonstrations, and the use of mass media. These methods are efficient in getting valuable information disseminated quickly to audiences ready to accept it and put it to work. They are less than adequate in getting such information applied on a widespread and timely basis by families who need more intimate counseling and encouragement.

INDIVIDUAL FAMILY COUNSELING

The complexity of modern-day farming, and the rapidly unfolding body of new research information, necessitates more intensive individual farm family counseling on the part of extension workers. One of the major points of emphasis, therefore, in the "retooling" which has been going on in extension recently has been more concentration of county extension workers' time on assisting individual farm families to scientifically analyze their own situations and to develop specific methods of improvement.

This work involves helping these families develop the ability and understanding of how to appraise their individual farming and family living situations, taking into account both their economic and physical resources. It includes determining ways in which efficiencies can be increased, cash costs reduced, and net incomes increased. It includes getting them familiar with the latest pertinent research findings and showing them how these findings can best be utilized in given farm situations; how the natural resources of the individual farm may best be used, conserved, and further developed; and how aids available through various Government programs and elsewhere may best be utilized. It means help to these families in evaluating all pertinent matters which every farm family must consider in making the most of their individual opportunities.

Extension efforts to meet the requests for this more complex and individual educational service have now been aggressively underway for about 3 years. Experience to date has been most gratifying and provides abundant evidence of the practicality and efficiency of this educational process. Although requiring, in the beginning, more time of extension agents per individual family assisted, the level of ability of such families is raised to a point where, after a year or so, the extension agents are able to divert their attention to other families.

In addition to concentrating on this educational method through the additional county extension workers that have been employed recently, practically every State director of extension is requiring agents in those counties without additional staff to develop such counseling programs with a limited number of farm families in addition to their regular workload. Through this procedure, these agents gain experience and develop competence in the use of this method. At the same time they obtain practical guidelines for adjusting their more general educational efforts.

UNDEREMPLOYED FARM FAMILIES

This same type of educational procedure is just getting underway with underemployed farm families in those counties undertaking rural development programs referred to by Secretary Peterson. These families fall in a group that have not characteristically been inclined to avail themselves of the assistance provided by Extension. Somewhat different initial approaches will probably be necessary in working with such families. We are firmly convinced that equally significant contributions can be made to them in improving their own situations. In so doing, the welfare of their communities and counties will also be enhanced.

DISTRIBUTION AND UTILIZATION OF AGRICULTURAL PRODUCTS

Another major phase of extension work being intensified recently is that of distribution and utilization of agricultural products, or marketing work. There is fairly general agreement, I am sure, that less progress has been made in increasing efficiency in our distributive processes than has been made in the field of agricultural production in recent years. To the extent inefficiencies do exist they reflect upon the individual farm families' income through lower returns for the products they have for sale.

The Extension Service throughout the country is intensifying its educational work with producers and their cooperatives with respect to modern-day problems and opportunities in the field of marketing. However, a major opportunity for bringing about additional efficiencies lies in conducting educational programs with the handlers of agricultural products.

Expanding extension work of a somewhat pioneering nature has been underway over the past few years with the handlers of agricultural products, all the way from the first handler to the retailer. This work has involved bringing the results of research to the various segments of the distributive trade. These research findings apply to the handling of agricultural products, particularly perishable products, so as to maintain quality, reduce spoilage and waste, provide more effective display to increase sales, and to encourage orderly marketing.

These efforts, we feel, are most productive and should be further expanded.

Through funds approved by this committee, the Federal Extension Service has employed four specialists in the field of utilization of agricultural products. They are working closely with the four regional research laboratories and with the State land-grant colleges. They are bringing to the industrial users of agricultural products the newest research developments promising increased efficiencies in the utilization of such products as well as possible new uses. This work, although still relatively new, is attracting great interest. It is being received very favorably, both by industry and the colleges. A few of the land-grant colleges have such employees and others are considering the employment of similar individuals to work with industry in their States.

4–H CLUB WORK

Another trend of significance is the increasing number of rural youth of 4–H Club age in our rural communities despite the decreasing number of farms. Although participation in 4–H Club work is increasing, the number of boys and girls of 4–H Club age living in our rural communities is increasing at a more rapid rate. This presents a real challenge to the Extension Service to strengthen program content better to equip those youth who aspire to continue in farming. At the same time appropriate educational services need to be provided to those who may not continue in farming but who, nevertheless, can profit materially from such training in other walks of life.

There are two other significant developments about which I feel you should be apprised. As Secretary Peterson indicated, extension programs are localized to a major degree. They are determined by consultation between county extension workers and the people whom they serve. The complexity of problems facing farm people currently warrants an even broader and more intensive type of consultation with rural people than we have employed in the past. Hence, extension is now engaged in more intensive consultation, with more broadly representative groups of rural residents, with respect to the major problems on which they wish to obtain help from the Extension Service. This effort to develop improved programs is new only in the sense that it is being done more thoroughly than in the past.

We feel that such an effort is quite essential in keeping extension work closely related to the most pressing local problems. At the same time it helps in developing local leadership, and encourages this leadership to assume responsibilities in encouraging constructive local developments through the efforts of local people themselves.

PROFESSIONAL IMPROVEMENT OF EXTENSION WORKERS

The other development is the growing recognition that the magnitude and complexity of educational responsibilities facing local extension workers demands continuing efforts looking toward their professional improvement. State extension directors are developing more opportunities for the professional improvement of their staffs, and are requesting more assistance from the Federal Extension Service in planning and conducting such in-service training work.

Several foundations and industries allied with agriculture are currently offering about 300 scholarships, predominantly for county extension workers, as an aid to enable them to get away from their work for short periods for professional improvement. These developments are contributing most significantly toward improving the efficiency and productivity of the total extension staff.

INCREASES REQUESTED FOR 1958

These are some of the factors underlying the Department's request for appropriations from the Congress in support of cooperative extension work in fiscal year 1958. As you know, the request this year is for an increase of $4,500,000 for payments to States, of which $3,050,000 is for allocation under section 3 of the Smith-Lever Act in support of the general extension program, $150,000 under the Agricultural Marketing Act for allocation to the States on a project basis, and $1,300,000 under section 8 of the Smith-Lever Act to finance the Extension Service part of the rural development program.

CONTRIBUTIONS TO RETIREMENT FUND

The next item is $5,260,000 to provide for the employer share of Federal contributions to the retirement fund for cooperative extension agents pursuant to Public Law 854.

PENALTY MAIL

There is also an item of $514,000 to provide for penalty mail costs of State extension directors pursuant to Public Law 705.

FEDERAL EXTENSION SERVICE

The last item is for $341,000 broken down into two parts, namely, $96,540 for contributions to the retirement fund pursuant to Public Law 854 with respect to the employees of the Federal Extension Service.

The other part in the amount of $244,460 is to strengthen the staff of the Federal Extension Service in order that it may more nearly meet the requests from the States for specific assistance in this coopera-

tive undertaking, and to more adequately service the Department's direct interest in this joint effort.

We shall be glad to try to answer any questions which you may have concerning the work of the Extension Service or any of the specific items in this budgetary request.

I have with me Mr. Kepner, our Deputy Administrator, and Mr. Schruben, the Assistant Administrator, who are also available to answer your questions.

Mr. MARSHALL. Mr. Ferguson, it is always a pleasure for this committee to have you before us.

EFFECTIVENESS OF EXTENSION WORK

This subcommittee held some hearings last year, last fall, 1 at Sioux Falls, S. Dak., and 1 at Morris, Minn., The testimony which was presented by people at that hearing was a further indication of the worthwhileness of your work. People testified before our committee on a number of the different phases of the informational work which you are carrying out, and I am sure Mr. Anderson will agree with me that that testimony was well presented and showed the effective work which is being done by your organiation out in the field.

I might say that, while much of the testimony was given to us by some of the county agricultural agents, it was very evident from the attitude expressed by the people in the meeting that they were merely reiterating the statements of the people in attendance. To my way of thinking, it was a real token of appreciation of the fine work that is being done by your Extension Service.

PERSONNEL

I wonder if you might place in the record at this point a table which would show the number of employees by categories, such as assistant county agents, county agents, home demonstration agents, and national extension workers?

Mr. FERGUSON. Currently under employment, Mr. Marshall?

Mr. MARSHALL. Currently under employment, and also by 5-year intervals for the last 25 years.

Mr. FERGUSON. All right, sir.

Mr. SCHRUBEN. I might make inquiry, Mr. Chairman, as to whether or not this material would be in line with the type of information you are seeking?

Mr. MARSHALL. Since this is already prepared, I think we ought to include this in the record at this point. I would think in addition to that, we ought to have your best estimate for 1957 and your projected estimate for 1958. If you could add that to the table, that would be excellent for our purposes.

Mr. SCHRUBEN. Yes, sir. I will have these additional figures and then make them available to you.

Mr. MARSHALL. Yes.

(The table referred to is as follows:)

U. S. Department of Agriculture, Federal Extension Service—Number of cooperative extension agents, as of Dec. 31, 1930, through 1958

Year	Directors and assistant directors	Administrative officers [1]	Specialists	County agricultural work		County home economics work		4-H Club leaders and supervisors	Total
				Supervisors	County agents [2]	Supervisors	County home demonstration agents [3]		
1930	80	----	1,232	142	2,880	133	1,509	137	6,113
1935	83	----	1,428	222	3,865	143	1,736	150	7,627
1940	103	----	1,664	201	4,302	150	2,402	182	9,004
1945	103	----	1,581	195	4,257	174	3,085	185	9,580
1950	119	----	2,108	209	5,572	202	3,946	242	12,398
1955	126	77	2,158	230	6,512	220	4,280	253	13,856
1956 [3]	121	74	2,170	240	6,758	223	4,077	255	13,918
1957	124	76	2,236	244	6,971	224	4,136	257	14,268
1958	127	78	2,307	250	7,196	228	4,271	261	[4] 14,718

[1] Administrative officers were not included until 1955.
[2] Includes 4-H Club agents.
[3] Prior to 1956 included temporary home demonstration agents.
[4] This reflects an estimated increase of 450 employees, assuming the entire increase in Federal funds will be expended for additional employees. This will not be the case inasmuch as many States should and will use a substantial portion of the funds available to them for needed salary adjustments. In addition to these salary adjustments, there will be a need for additional supplies and equipment as well as educational tools such as visual aids and TV equipment.

Mr. MARSHALL. Would you tell us how many additional extension workers you are requesting for 1958 and how many county agents and home demonstration agents this list will provide? I realize that is in the table, but we would like to have some information on this now.

Mr. FERGUSON. We have not broken that down in a final figure. I would say that most of these will be county staff workers. There will be a need in some of the States for some State personnel, particularly in the field of supervision. There may be a little help needed in some of the administrative fields; some States may have a need to make some salary adjustments. We will be very glad to break it down and put it in the record.

Mr. MARSHALL. We would appreciate it.

Mr. FERGUSON. Very well, we will do that.

RURAL DEVELOPMENT PROGRAM

Mr. MARSHALL. We would like for you to tell us what you have accomplished to date with the rural development program. Will you comment on that?

Mr. FERGUSON. We will be very glad to comment on it. I would like to make a general statement, then I am going to ask Mr. Kepner if he will fill you in on a little more detail, because he has been very close to this program, working on it in liaison with the Secretary's Office and with Mr. L. I. Jones, who has been the liaison person with the States.

LOW-INCOME COUNTIES

From an extension point of view, we look on the rural development program largely as a demonstration or pilot effort. There were, as you know, about 1,000 low-income counties listed at the time the study

of the utilization of agriculture's human resources was made. The rural development program up to the present time is limited to 54 counties in which the work is being supported by these funds. The States have taken on some few additional counties with other funds.

We look at this program as one which is dedicated to stimulating local people to take into account their own situations and their own resources. Where there is a need for a rural development program, it is Extension's responsibility to provide them with a limited amount of special assistance and to help them in getting organized for local action.

We do not anticipate that the development will require assistance to all problem counties. We feel that as these demonstration counties' programs are developed, that this method of working with local folks helping them to develop their own resources will spread to other counties. The assistance of the Extension Service and that of the other agencies, should make a very definite impression on the living standards of the people in these areas.

In 1958, we contemplate strengthening the work in the counties in which we are now working and getting the work started in about a similar number of counties.

The map that was prepared at the time this study was made shows the area that was affected in 1950. There may be some changes because of situations that have changed, particularly in the Great Plains. Here we may find some colored areas on that map which were not there in 1950.

May I ask Mr. Kepner if he will take over at this point? Mr. Kepner, you have a map. I think the committee would like to see where these counties are and just what work is being done.

Mr. ANDERSEN. Mr. Chairman, before we go into that, may I inquire first?

Mr. MARSHALL. Surely.

PROGRESS OF RURAL DEVELOPMENT

Mr. ANDERSEN. As you know, Mr. Ferguson, this is more or less of a new development. This subcommittee has, through the years, gone along with Extension, recognizing its good work in the major fields in which it has embarked. And as far as I am concerned, Mr. Chairman, I do not think it is necessary to spend too much time today as far as the regular work of extension is concerned, but I would very much like to have this afternoon a clearer picture given to us by Mr. Ferguson and by Mr. Kepner as to just how this rural development plan is progressing so that we can get an idea of what is being done; because, as I have said, it is the beginning of something which will be with us for years to come, and I would like to request that a very vivid picture, as vivid as possible, be given to the subcommittee at this time in this work, Mr. Chairman.

Mr. MARSHALL. We appreciate that this particular program is very much in the pioneering stage at the present time. For that reason we are very much interested to find out just what you have done and what you have accomplished and what you intend to do within the next fiscal year with the funds that we have allocated for that program.

And I agree with my good friend and colleague from Minnesota that it is something that we are intensely interested in, and we appreciate your spending some time going into the details of it.

Mr. PETERSON. I would like to observe, if I may, Mr. Chairman, that we certainly welcome that intense interest on the part of this committee.

Just one other comment. We visualize this as being a special program in any one county of limited duration, that when the work has gotten underway it should be absorbed in the regular on-going programs of the county and within the regular funds.

Mr. ANDERSEN. Mr Petersen, would you state that the general approach is perhaps the intensification of extension work as we know it in these particular areas which have been shown to be in need of it and which become part of this program. Is that it?

Mr. PETERSON. I would say that expresses it very well, Mr. Andersen.

Mr. ANDERSEN. Now, in that work I wish you gentlemen would bring out the relative importance that you place—I know the chairman, Mr. Whitten, is very much interested in this point too. I wish you would bring out the relative importance which you attach to the home-demonstration agents in connection with this general field in comparison with the agricultural agents. In the areas we are talking about, the farm home and the farm family have serious problems calling for the services of the home demonstration agents.

Mr. PETERSON. Mr. Kepner.

Mr. KEPNER. Mr. Chairman and members of the committee, it seems that I am catching on here at the major point of interest this afternoon. I am going to reserve the privilege of calling upon my other colleagues, including the Assistant Secretary to bolster my presentation.

In view of the comments that have just been made, I think I will proceed to talk about specific accomplishments, and lay out the framework. This is a departmentwide effort into which Extension Service fits as do the other agencies of the Department. So while we are discussing accomplishments, we are talking about Extension's part. It is an effort which has been expressly and specifically directed to getting all of the services of the Department, plus resources of a local nature, brought to bear on the total complex of problems in these counties where a substantial portion of the people are in the low-income status.

STATE COMMITTEES

To that end, not feeling that we have any preconceived, perfect method of approach, the Department has left it up to State committees which the Secretary and Under Secretary asks each State to set up. The dean of the college of agriculture in each of these States has been requested to take the initiative in setting up a State committee to give guidance to this work.

Generally speaking, that committee includes representatives of all the departmental agencies functioning in the State, representatives of the college, representatives of State government, such as industrial commissions, State forestry departments, Vocational Agriculture as well as representatives of farm people. That is a counseling body which gives general direction to the work and recommends the counties to be selected as demonstrational counties.

Under this method, we have a slightly different pattern in each State, different sets of subcommittees, and different bits of emphasis. These are appropriate for the particular State. This pattern is duplicated in the counties. Each of the agencies functioning in the county has a representative on the county committee in addition to local industry representatives, bankers, businessmen, representatives of the public schools, public health, and farm people. That is really the body which guides the program in the county.

COUNTY SUBCOMMITTEES

Counties operate differently. They usually set up subcommittees the types of which differ. They vary from a minimum of three, one on industry, one on agriculture and one on general public services, including health and education. From this they range up to as high as 9 or 10 subcommittees. Most counties have a subcommittee on potential industrial development, some subcommittees are organized on commodity lines, and others on problem lines.

REDIRECTION OF EXTENSION EFFORTS

That is the general picture into which Extension operations fit in this particular undertaking.

Extension has two major responsibilities in connection with this type of effort. One is a redirection of Extension's regular program activities, with emphasis on individual counseling to these people who normally have not taken advantage of Extension Service assistance.

In other words, we have to go out and seek them out and not wait for those who have the initiative to come in, call or otherwise take advantage of Extension resources.

In this effort we are attempting to deal with people—many of whom are part-time farmers often on inadequate-size units. Often they will need encouragement to seek the help of other agencies, such as the State employment service. Where they do not have an opportunity to develop an economic-size unit, they may need help to find additional sources of revenue, either in new enterprises on their farms or in part-time employment.

A second responsibility is to look at the other side of this activity, and get an inventory of the resources of the county. If one of the problems in these counties is under employed people we must find out what potential exists in terms of natural resources or business opportunities for the development of additional employment.

That is not solely an Extension responsibility but, as Mr. Peterson indicated, Extension, has throughout its forty-some years of experience developed considerable know-how on getting people to work together toward a common objective.

So it is our responsibility to service these county committees, to help them undertake the making of inventories, analyze the information they get as well as help them get information from other sources, such as the State departments of commerce and the like. We must also help them get in touch with potential industrial development enterprises where there is an opportunity for developing additional sources of employment in the county.

That, in itself, is a full-time job for one man. With a county committee and from 3 to 10 subcommittees working, there is an enormous amount of work to service and guide and stimulate folks in order to keep that machinery operating.

In these experimental or demonstration counties there is a full-time job for one man to work with groups, stimulate them, get them organized, give them direction and provide services to them, help get them additional information and see that the machinery operates.

So Extension, as its part of the operation, has those two major responsibilities.

I should not be speaking for the entire Department, but just let me say this; that the whole effort is predicated on the assumption that other agencies and other departments such as Soil Conservation Service, the Farmers' Home Administration, and the Farm Credit Administration, all will be giving concentrated attention to these demonstration counties. They all have membership on these committees.

HOME DEMONSTRATION AGENTS

One other point, Mr. Andersen raised the question about the home demonstration agents. In my judgment, the home demonstration agent's function, in this effort is that of teaming up with the county agent or the associate county agent who may be assigned to this work, to work with these farm families to which we are giving individual counsel, helping them to make the most of their agricultural and home opportunities. It means counseling with the farm housewife, often jointly with the husband, in relation to not only the improving of income-producing ventures on the farm, but also on the best use of that money.

We get into such matters as building a new house or remodeling the old one. What is to come first is a good family question. Is it an investment on the farm or an investment in the home, a bathroom or a piece of machinery? We are trying to arrive at a point where we can get enough home agents to get the work done—that is a constant problem. There is a need to have a farm agent and a home agent work together as a team in counseling these farm families. A county agent is neither as expert in the method of dealing with the housewife nor in the subject matter involved as a home agent would be. After all, this is a family enterprise in which all are involved. So we look upon the home agent as a full-fledged and essential member of the team.

Now, that by way of general background.

Mr. ANDERSEN. Just one question, Mr. Kepner.

Mr. KEPNER. Yes, sir.

ADDITIONAL PERSONNEL IN PILOT COUNTIES

Mr. ANDERSEN. In these rural development pioneer counties, just how are they set up now as to the personnel? Do you have about say double the number of extension personnel in such a county, or what?

Mr. KEPNER. I can give that to you rather accurately, Mr. Andersen. As this map indicates, we have 24 States with 57 counties involved in this at the present time. In those 24 States you have 3 pat-

terns. We have just a third of them, 8 States, that predicated their first year's operation on the basis of 1 additional extension worker per county. That person is predominantly spending his time with these committees, getting them organized, and getting the inventories taken.

Mr. MARSHALL. It is predicated upon one additional extension worker per county. Do you have any counties that have more than that?

Mr. KEPNER. Yes. That was for the first year's operation; that is not the ultimate, even in these States. But there are eight of them, and it was on this proposal that we provided them funds. No doubt after the first year's operation, in those counties and in those States when they got their organizational work underway, they needed some additional staff.

We have 9 States where they are placing an average of 2 additional workers per demonstration county. They will be a farm agent and a home agent. We indicated a while ago that it is sometimes a little difficult to keep this home agent side staffed, because they get married too fast, and other reasons.

This is in terms of what they propose; they have not gotten staffed to that point to date.

In the other 7 States 3 additional workers per county are proposed, with 1 exception—and I will point to that in just a moment. Three additional workers per demonstration county is about the pattern arrived at in discussions with the State extension directors when this idea was first proposed by the Department. And that was predicated on this reason. We need one person who would have a full-time job working with and servicing these committees. This means he is not going to have a lot of time to work with farm people directly. We need, then, in addition a county agent and home agent to work with the individual families, which are in this lower-income category.

That was the objective in terms of staff, as we discussed this program in the early days when it was under consideration around the Department.

In some States additional Negro agents are also being added to the team.

I would like to say that in considering this problem and the magnitude and the complexity and the nature of this job, with an advisory group of State extension directors, it was agreed that where we have these heavy concentrations of underemployed people, that an optimum staff for the Extension Service in discharging its responsibilities would be three people—one worker to spend full time with the county committees for the duration of the demonstrational effort, an additional county agent and home agent to work directly with the people.

Mr. MARSHALL. You have had these persons for about a year now. Have you changed any of your opinions as to the number that may be required to carry on this work in the future?

Mr. KEPNER. Mr. Chairman, we really have had but a few months of actual operation, except in a few counties where, prior to the time any new funds became available, in anticipation of this program, they actually started preliminary work and supported it out of the regular funds.

These funds became available July 1. It was necessary for us, by the nature of the law, to ask the States to submit proposals as to the number of counties they would like to designate and how much staff they would need. We got requests for about 50 percent more funds than we had. Those funds could not be gotten out until August 15, because after the funds were available we had to send these queries out to the States and get the proposals in. The proposals then had to be evaluated and the funds allocated. In reality, the States were not assured until August 15 that they would have additional Federal funds. They were then faced with the problem of getting staffed. So insofar as additional resources are concerned, we have had very few months to get anything started.

The magnitude and complexity of this job is one that demands that an enormous amount of preparatory work be done; committees have to be organized and started to function, to get their minds set on what they are going to do and get their inventories made. In my judgment, any State or any county that made any conspicuous showing in an effort of this kind in less than a year would be doing almost the phenomenal.

TIPPAH COUNTY, MISS.

In a few States we did have a few counties selected and the groundwork laid and some things undertaken prior to the time Federal money became available. One of those is Tippah County, Miss. I am sorry that Congressman Whitten is not here; I am sure that he would be interested in this particular case history.

Mr. ANDERSEN. I might say for the record that Congressman Whitten was called home because of a death in his family, and we, too, regret that he is not able to be with us here today, gentlemen.

Mr. KEPNER. We are certainly sorry to hear that.

In Tippah County, Miss., they did start in the very last days of 1955 to build the groundwork for an endeavor of this kind, anticipating that eventually money would be made available to help them out.

In taking an inventory of their employment potential in the rural areas of the county, they learned that many underemployed people would be interested in having some other kind of employment. The natural resources potential was considered. They took a look at agriculture and its state of development and where it might go. This represented committee activity. The committee sponsored, and the businessmen of that county subscribed, $25,000 to build a new milk plant in the county seat town to provide a market of grade A milk. The businessmen did this in support of an improved dairy industry in the county. This county has predominantly had a cotton cash crop economy with very small acreage allotment. In order to stimulate further the improvement of the dairy industry, businessmen of the county have bought 19 registered Jersey cows which they have presented to selected farmers. I do not know how they select the recipients; they have their own ways of doing those things. The cows were presented to begin an upbreeding process in the dairy industry in that county. They also have provided the resources to rejuvenate an abandoned building in Walnut, Miss., to be used for a garment factory. That factory has come in and is providing employment for 250 people at the present time. The business organizations have also

set up a kitty of $2,000 for prizes for community improvement in which the various communities compete.

Extension's other responsibilities in this particular county during this past year have resulted in working with 148 individual underemployed farm families. These families were helped to set up as good a potential as they could with the resources available to them. They are not through working with those 148 farm families; this job is not done in a few months' time, but they have gone so far as to help the 148 improve their farm and home plans. They anticipate in 1957 and 1958 taking on more cooperators. They are working vigorously in developing supplementary cash-income crops, with considerable emphasis on strawberries in half-acre plots, a family-size unit. They discovered that they have markets for this crop. They are also putting considerable stress on the two livestock industries: farm flocks of sheep and cattle.

During the course of the year they have helped three farmers to get either new farms or additional land to enlarge their farming operations and to make a unit of more economic size. They have helped 4 families build new homes and assisted 26 in getting a satisfactory loan to strengthen their farm operations.

MACON COUNTY, TENN.

That, very quickly is the story in one county. If I might be permitted to cite just one more example, Tennessee started three of these counties without any additional resources in 1956. Macon County, Tenn., is one in which three-fourths of the farms really fall in this underemployed or low economic group. They have a committee which is comprised of 12 farmers, 6 businessmen, a local mayor, and all the local representatives of industry. One of the problems that they visualized in this particular county was the fact that they just did not have farm opportunities for their youngsters. They had only 1 typical farm becoming available for every 5 boys trained in vocational agriculture.

They visualized that they needed a different kind of training for boys. They got some money together and built a small building for industrial training. They then worked with these various people to get an industrial teacher. This started vocational training in the industrial field, in addition to the vocational agricultural training. They took a survey of the labor potential in the county. The businessmen subscribed $100,000 and put up a building to entice a factory into the county. That, I understand, is about completed and soon will go into operation. It will provide employment for 600 people in the county.

On the farm side, they are enlarging the strawberry enterprise, putting it on a commercial basis, a half-acre per farm family. They have the local processer wanting the berries.

They are developing a grade A egg route to go into Nashville. This means quite a lot of education on strictly production techniques, but they can provide a volume of eggs sufficient to make a grade A egg business operate successfully and provide employment.

They have organized, with the help of management specialists from the State college, a series of management courses where they are working with these underemployed farmers who are getting

together once a week over a period of time with the aid of the technical services from the college.

Those are typical developments in these counties that, on faith, did start back in 1956 to get underway. I would say that, by the time we could notify the States on August 15 that they had Federal help available, it could not have been before September sometime that they could really have employed any new staff.

So, in reality, out of Federal funds that we had appropriated for 1957, the bulk of the counties are really just getting their feet on the ground, getting organized, and finding out how to get operating procedures established.

INCREASE FOR RURAL DEVELOPMENT

Mr. ANDERSEN. Mr. Kepner, this $1,300,000 increase is not the first annual direct appropriation for this work; is it?

Mr. KEPNER. No; last year we had an appropriation.

Mr. ANDERSEN. How much did we put in for 1957?

Mr. KEPNER. $640,000.

Mr. ANDERSEN. I was under the impression that you said that you had taken it from other sources. But it is $640,000.

Mr. KEPNER. That is the money we got out August 15 last.

Mr. ANDERSEN. Now we are being asked for $1,300,000 increase for this next year?

Mr. KEPNER. That is right.

Mr. ANDERSEN. Do you anticipate a general increase as you go along until all these counties are serviced; is that it?

Mr. KEPNER. Mr. Andersen, our concept is that the Federal Government's position should be one of stimulating the folks to do things for themselves. If the Federal Government can help, we will say, for approximately 3 years—or it might in some cases take 4 or 5, and in some cases it might be only 2—we feel that the county itself will take care of itself from there out. It will have learned how to do this thing. They will have people working together and they will have the know-how to do the job. Those same moneys can then be transferred to some other counties for a similar type of stimulating yeast planning, if I may use that kind of an analogy.

Mr. HORAN. How many counties did you say you had?

Mr. KEPNER. We have 57 counties now in operation.

Mr. ANDERSEN. You would contemplate, then, that over a 5-year period, as far as this rural development work is concerned, extension would be completed with these fifty-some counties we are discussing here today and they would be in other counties?

Mr. KEPNER. Yes, sir. And it might be less than 5 years. We would hope that we have enough experience of a fruitful nature—and I would not want to state this on anything more than hope—that possibly 3 years would do the job.

INCREASE FOR SMITH-LEVER ACT

Mr. ANDERSEN. One further question, Mr. Chairman, and then I am finished. I might ask this of Mr. Ferguson. The larger increase requested, Mr. Ferguson, of $3,050,000 to strengthen State and county extension work included under the item of payments to States; now, that is, generally speaking, nationwide; is it not, sir?

Mr. FERGUSON. Yes, that will be distributed, Mr. Andersen, on a formula basis under section 3 (c) of the Smith-Lever Act.

Mr. ANDERSEN. In other words, you might say that that is an extension of the present work that we have engaged in for a good many years?

Mr. FERGUSON. That is right. Section 3 (c) provides for the distribution of those funds according to formula, that formula being based on the rural population and the farm population. The purpose of that particular increase is to further strengthen the program that is now underway, with particular emphasis on what a good many States have come to call farm-home development, other States, farm-home planning, with the emphasis particularly in the field of management, designed to help these families put a sound economic base under their farming operations.

Of course, some of those funds, of necessity, will be used in general extension work such as strengthening 4–H Club and home-economics programs, in addition to work in the field of economic and technological and outlook information. This work is very pertinent in light of the efforts that are being put forth to help families think through their operations on a little longer term basis.

So that would be used, Mr. Andersen, for the strengthening of the current, ongoing program.

Mr. MARSHALL. Mr. Ferguson, I think at this point that we ought to have placed in the record the names of the 57 counties identified by State and the number of additional workers employed in each one of these counties, with a breakdown of the three groupings Mr. Kepner mentioned.

Mr. FERGUSON. Yes, sir.

(The table referred to is as follows:)

Rural development counties and proposed staffing for fiscal 1956–57

1. One additional worker per county:

State	*County*
Alabama	Chilton, Fayette.
Illinois	Pulaski-Alexander (area).
Maine	Washington.
Maryland	Garrett.
Minnesota	Carlton, Hubbard, Itasca.
Ohio	Guernsey, Monroe.
Pennsylvania	Fayette.
Wisconsin	Price, Sawyer.

2. Two additional workers per county:

State	*County*
Arkansas	Ouachita, Phillips, Van Buren.
Indiana	Perry.
Kentucky	Butler (area), Elliott (area), Metcalfe area).
Louisiana	Avoyelles, Franklin, Washington.
Michigan	Mackinac, Delta.
New Mexico	Sandoval, Santa Fe.
Tennessee	Grainger, Hardin, Houston, Macon, Marion.
Texas	Camp-Franklin-Titus (area), Cherokee, Shelby-San Augustine (area).
Virginia	Cumberland, Carroll.

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Rural development counties and proposed staffing for fiscal 1956–57—Continued

3. Three or more additional workers per county.

State	*County*
Georgia	Meriwether, Habersham, Wayne, Twiggs.
Mississippi	Covington, Holmes, Tippah.
Missouri	Dent, Douglas, Taney.
North Carolina	Anson, Bertie, Watauga.
Oklahoma	Choctaw, Cherokee.
South Carolina	Bamberg, Berkeley, Chesterfield.
West Virginia	Lewis (area), Raleigh (area).

ALLOCATION OF RURAL DEVELOPMENT FUNDS

Mr. MARSHALL. Now, you mentioned the appropriation that Congress made last year for the rural development program. How much of those funds will you not use this year?

Mr. KEPNER. That we cannot answer; until the end of the year. There will be some of it that will not be used. It was all allocated to the States. The States asked for $958,000; to start this work we had $640,000 to allocate.

When you start a new program of this kind you have got to go out and find good personnel. There is some delay in staffing.

Mr. MARSHALL. Could you tell us how much has been spent as of February 1?

Mr. KEPNER. I think we had better refer that question to Mr. Schruben.

Mr. SCHRUBEN. No; we do not have that information on a monthly basis, while it is available to the States it will come to us only through the financial reports made by the States.

In setting up the program, the budget was developed on the part of every State effective September 1, and the money was allocated on the basis of a program which would take 10 months to spend the $640,000. In other words, it was not allocated on an annual basis but on the basis that the program could not be started before September 1. So that the number of counties and the number of employees could not be sustained on a 12-month basis.

Mr. MARSHALL. What is the last available date that you had knowledge of the current expenditure?

Mr. SCHRUBEN. The information we have at this time is the States' budgets, and the personnel actions indicating the dates on which those people were employed.

We do not require monthly financial reports from the States. So we have had no detailed financial report as to expenditures since the money was available.

Mr. MARSHALL. Recognizing the fact that this is a new program and that the Congress did appropriate money for the inauguration of the initial phase of the program, what safeguard would you have against the tendency of local authorities to put personnel on during the last 2 months of the fiscal year just to use the money up that was available? Do you have any safeguard against that?

Mr. SCHRUBEN. I think the primary safeguard is that the employee is a responsibility of the State, and if they put employees on the last 2 months they would still have them on their payrolls July 1. And the best safeguard is the fact that the employee, would be a regular

staff member and would be the responsibility of the institution in that particular State.

Of course, we work very closely with the fiscal people in each State, and we know the degree of control that the institution exercises over the various budgets of the Department from the standpoint of the use of moneys available.

Mr. MARSHALL. If I understand you, you are putting your reliance on the integrity of the people in the State. You yourself do not maintain any administrative control over that particular phase of it.

Mr. SCHRUBEN. We do, through the appointment process. All people who are employed are recommended for appointment by the Department. All recommendations for appointment come with the qualifications of the person who is being appointed. That would be the best check that we would have as to the people that were being employed.

Our fiscal examiners will be going to the field this spring to make some preliminary checks of the operations of the State extension services of which this will be a part.

COOPERATION BY STATES

Mr. MARSHALL. Are the States making any contribution financially for this particular work?

Mr. SCHRUBEN. Do you mean in terms of section 8, which funds do not require matching? They are making contributions, not directly to section 8 activities, but in terms of carrying out a more detailed program than section 8 would provide by involving funds available within the State for this same work. Section 8 funds do not require matching.

Mr. MARSHALL. And as such, the States have not made any contribution to the purposes of section 8; they have given you assistance in other ways, but not directly?

Mr. SCHRUBEN. That is right.

Mr. FERGUSON. May I add a little more to what Mr. Schruben has said? These funds were made available to the States on the basis of a plan of operation which they submit and we approve. Consequently, the use of these funds when we make our inspection will have to be in line with that approved plan. I do not think there is any problem that these funds are going to be dissipated or used for some other purpose, because they have already submitted, and we have approved, a plan of work they agree to follow.

As to State contributions, as Mr. Schruben has pointed out, these funds do not require matching, because it was felt at the time the Smith-Lever Act was amended for this purpose that these funds would, for the most part, go into counties which did not have too much in the way of help that they themselves could give. These are poorer, or less fortunate, counties. Consequently, section 8 funds do not require matching.

However, I think we have to realize that when a State accepts these funds they accept them on the basis that they will provide the overhead expense. This effort does not increase the cost of administration, because practically all of that overhead is being absorbed. These people will be added to regular county staffs. The counties are not usually put to additional expense for housing staff, yet in a good

many cases I think we will find that the counties are carrying some additional expense in connection with this work in terms of travel, and so forth.

So while the law does not require matching, in actual operation there is a good bit of State support. And, as Mr. Kepner has pointed out, some of these operations got underway before we made these funds available, so that in those cases the States were carrying all of the load.

I do not think there is any danger that these funds would be expended for purposes other than that for which they are appropriated.

Mr. PETERSON. There is another factor that I think has some bearing on this, Mr. Marshall, and that is the fact that I believe we have made it clear to the States this was not to be regarded as a permanent, parallel program to the regular, going extension program which is subject to matching by the States. In the light of that circumstance, it hardly appears logical that a State would undertake a program which, if it is successful or has any degree of success, which we think it will have, that State would be required to move over into their regular program at some subsequent time where local and State participation financially would be involved. We believe there are ample safeguards from that point of view.

Now, certainly safeguards as to the expenditure of the allocated money for the specific purpose of this program are necessary, as Mr. Ferguson has said. A plan submitted by the State for prior approval is a prerequisite to the State undertaking the program, and our audits will be made against the State's plan of operations and the spending of funds in consonance therewith that will assure proper use of these funds.

Mr. SCHRUBEN. Mr. Chairman, in addition to the plan of operations submitted by the State, each State submitted a budget which included the numbers and titles of the different personnel that were to be employed. And it was on the basis of that plan of work and that budget proposal that the funds were allocated. When our examiners check the work performance it will be against those same documents. So they are authorized to operate within a budget framework which was submitted in advance, and they do not have a blank check to go out and operate outside the framework of the budget.

Now, if the operation dictates that there should be an amendment to the budget, it can always be amended so long as the amendment is mutually agreeable. In other words, they would submit a budget amendment indicating wherein they might feel that they should strengthen their program. Those budget amendments would be reviewed and approved or rejected. But the money is allocated on the basis of the plan and the budget, including the number and title of positions. It is on that basis that the fiscal side of their program will be checked.

Mr. MARSHALL. You mentioned, Mr. Kepner, several phases of the work that had to do with industrial development. What is the Labor Department doing to assist you on this?

Mr. KEPNER. Well, I cannot speak for the United States Department of Labor. I am not sure that I understand all of the working

relationships between the Labor Department here and State labor departments or State employment services. But I do know that the State labor departments or State employment services have been active in the counseling stage. They have advised with respect to the kind of questionnaires that ought to be used in finding the labor potential.

That is about all the evidence that I have, sir, with respect to specific functions of the State employment services or labor departments, although we have every evidence that they are participating actively in the discussion and planning stage.

Mr. MARSHALL. Mr. Wheeler, could you tell us whether the Department of Labor has received any special fund for this type of work?

Mr. WHEELER. It is my understanding that they have not.

Mr. FERGUSON. May I just add a little there, Mr. Marshall, on the labor side of this?

I think among the outstanding things happening in this work—I would like to mention two. One is the cooperation at the State and county level of the various agencies concerned. When you look at the roster of the State committees which have been set up to consider the possibility of moving on this program, we find that practically every agency at the State level has been active in the planning stages. The same thing, of course, has been true in the counties.

MONROE COUNTY, OHIO

I would like to comment on Monroe County, Ohio, which happens to be a county which I know very well and because I think what happened there has a direct bearing on the labor situation.

Monroe County is one of the southeast Ohio counties down along the Ohio River, originally settled by Swiss for the most part. I would say from personal knowledge of a good many of those families down there, they just never came any finer. Yet, during the years agriculture has not provided a very good livelihood for those folks. Land was rough, and since 1910, 38 percent of those people have left the county. At one time it was the second lowest county in agricultural income in the State. At the present time it is the lowest.

They put a young county agent in there a year ago or so, and he took a look at the situation, called some of the rural leaders together to see what they could do to put some jacks under the economy of the county. In 1954 they set up a committee to take a look at themselves. One of the very interesting things they did was to conduct a labor survey of their own. The figures were something over 4,000 people available for hire, 70 percent being men and 30 percent women.

These people are solid, industrious, fine folks. This information was made known to industry, and the Olin-Mathieson Co. came down and made a survey of the situation in Monroe County and decided to move in there with a new aluminum plant. Their original investment in this plant was estimated to be $90 million, and I understand they have increased that estimate by some 40 or 50 percent since that time. This has completely revolutionized the economy not only of Monroe County but several of the adjoining counties.

Since this happened, Monroe County is becoming one of Ohio's well-developed counties. Among other things they are extremely interested in is the improvement of their homes and highways so

they can continue to live on these farms and commute back and forth to work.

This new plant, I understand, will employ about 2,000 people now and 5,000 ultimately. That is a good example on the industrial development side.

I think we will find in Monroe County that many of those families will live on the farm, their youngsters will be raised out in the country as they always have been, they will attend the same churches and 4–H Clubs they always have; yet some member of that family is going to be working in this plant. I have a feeling that that is a great thing for that southern Ohio county. I know it very well. It is not unlike the country that Mr. Kepner and I feud about, good-naturedly—southern Indiana, his home State, or southern Illinois, Kentucky, and West Virginia. That whole Ohio valley area is about that same kind of country and offers many of the same opportunities..

So far as the farms in such an area are concerned, many of them are not big enough to justify mechanization. They are rough. But a family can live on those farms; they can change the type of agriculture. They can sod those hills over, prevent washing, and get improved roads. They can graze some beef cattle or sheep, something that does not require a tremendous amount of labor, yet they, or some member of the family, can be employed on a full-time or part-time basis in town.

If they were to depend entirely on agriculture, under today's conditions there would have to be a great consolidation of those farms. Many of those farms would have to be thrown together if they were to operate efficiently. The amount of money one would have to invest today to operate a farm under those conditions is very large.

DEVELOPMENT OF EXTENSION PROGRAMS

Mr. MARSHALL. The work that you have outlined indicates that extension work is progressing beyond the concept that we had at one time of the work of an agricultural agent.

Mr. FERGUSON. That is very true. Originally Extension considered itself to be concerned almost entirely with the scientific aspects of agriculture itself and that still is the major line of work, as we have gone along and as agriculture has changed—in addition to the major lines of responsibility, providing of scientific information to farmers and to homemakers—there is this constant demand for extension people to help people think through just how they can succeed as a farm family on the farm or as a community. That is really at the heart of this rural development effort. Certainly it involves decisions by people as to how they can use their time and resources to best advantage on the farm. It also involves the exploring of additional opportunities that can be made available to them and what they need to do to adjust to that situation.

Mr. PETERSON. On that point, Mr. Marshall, I think one of the characteristics, and I believe one of the strengths of the extension program, is that it is developed in the counties where the work is done. Now, methodology, assistance and information, and so on come both from Federal and State sources, but these local communities change; their conditions change; their problems change. And as they change, the local people look to Extension as one of the

resource agencies, as Mr. Ferguson said, to help them think through the problems of adjusting their situation to those changes which have occurred and which undoubtedly will continue to occur.

But therein lies one of the strengths of the extension program, in that it is adaptable to changing conditions and the changing needs of people.

Mr. MARSHALL. It is my understanding, Mr. Secretary, that the policy of the Department is such that the Extension Service would take the lead in the informational and educational approach to this program of rural development.

Mr. PETERSON. That is essentially correct. I would like to rephrase that just a little, Mr. Marshall, to say that it should be, and it is, the policy to encourage the Extension Service to help local people to organize themselves, to meet the problems brought about by changes in their own community. It differs from extension being the motivating force toward helping people in the county be the motivating force to a new program.

The distinction may be fine, but I think it is an important one, sir.

Mr. MARSHALL. Mr. Secretary, in my district I have one of the counties that is inaugurating this work. I think it was a proper choice. I think the county was selected from my district because it was a good county to carry on this rural-development work. However, touching on one phase of the work, as a matter of coordination of the work of the Forest Service, Farmers' Home Administration, and other activities in the Department of Agriculture, is it expected that some group, perhaps the Extension Service, should be the prime factor in attempting to coordinate this work in such a way that it would bring about better service to the people living within that particular county?

Mr. PETERSON. Well, there again, as Mr. Kepner pointed out while he was describing the organization of this particular effort, a committee is formulated at the State level; a county committee, or a like committee, is formulated at the county level to guide the county participation in this program. The county committee represents both representatives of the departmental agencies, local farm and rural people, local business people; and how that committee organizes seems to us is pretty much a local problem.

Now, the Extension Service, working directly with farm people, certainly has a responsibility, we believe, as problems arise where there are resources to meet those problems from either FHA or Forest Service or Soil Conservation Service, to bring to the attention of the farm people that those resources are available and where they are available.

So, to some degree, yes, Extension does act as a coordinating service, but it is not in the sense of being a manager or director in the other activities, is the point I think I want to make.

HUBBARD COUNTY, MINN.

Mr. MARSHALL. Mr. Secretary, in Hubbard County we have a number of State and Federal agencies. Might not there be some way that a little more efficiency and better service might be brought about by these local people in their planning to try to coordinate this work? Who is going to take the lead of attempting to coordinate work along that line? Is it the responsibility of Extension Service?

Mr. PETERSON. Yes, sir; coordination is certainly the responsibility of Extension in that sort of program, or so it seems to me. I think your point is very well taken, indeed. Certainly counties differ in characteristics and makeups and problems. And we should not be staffed in these counties beyond the ability to use that staff to the benefit of the county and to use it effectively and efficiently.

I certainly recognize that there should be a difference in staffing in counties. In some counties there may be little or no need for some of these agencies you mentioned; there may be no work for them to do.

In working with the rural people in that county or all of the people in that county, the Extension finds as a result of the determinations made by those people themselves that there is a task to be performed and which SCS or Forest Service or somebody can perform. Then, certainly, through the regular channels Extension should call to their attention, on behalf of these local people, that here is a problem that falls within the province of this other agency's operating facilities, and the other agency should then respond to that program, or so it seems to me, Mr. Marshall.

Mr. MARSHALL. In the county that we are mentioning here today, Hubbard County, there is need for all phases of work; however, it is questionable in my mind if there is enough of that need for work of some of the agencies that would require full-time office staffs.

Mr. PETERSON. Yes, sir, and what goes with it; the overhead that goes with it.

Mr. MARSHALL. Yes, and what goes with it.

FARM FAMILY RATIO—AGENT

Mr. MARSHALL. Mr. Kepner, when you were talking about the phases of your work in the rural development program you made mention of one phase that had to deal with working with farm families. How many farm families is it possible for the assistant agents or associate agents, whatever you call them, to work with in this rural development program?

Mr. KEPNER. I should say that the normal load on the intensive counseling basis, Mr. Chairman, would probably run between 50 and 100 in any given year. It depends a great deal upon local circumstances, the circumstances in which the farm families find themselves. That does not mean, of course, that that is a continuing effort with those 50 to 100 farm families. In individual intensive farm counseling it is intended that we work with them a year or two on a fairly intensive basis. A year perhaps is enough in some cases, maybe 2 years in others, particularly with these underemployed people we are talking about. Then we hope that by that time we have brought them into the circle of regular extension activities and they become participating families in a regular on-going extension program, making better use of the efforts we employ through general means. That at least is my personal estimate. Mr. Ferguson, am I far off on that in terms of this intensive farm counseling?

Mr. FERGUSON. No, I think that checks very closely. As Mr. Kepner pointed out here, it varies with local situations. Of course, the thing that we hope is that we have a graduating class going on all the time, so it does not become necessary to give those farm families more intensive counseling for too long. As a matter of fact, what

happens in most of these counties is that they try to move those people into groups so they work in groups as far as possible. We have some very interesting things being done in this field. Some counties have attempted to work on a group basis to start with and have had excellent success, particularly in the discussion of principles, they find that they can work very nicely with groups. Eventually there comes a time when they have to give many of these families a little more individual help. I think where that is going on probably the number of families per individual worker is somewhat larger. Yet apparently that method does not adapt itself to all situations or all counties. I think the figure of 50 to 100 is not far off at any one time, realizing that that is a rotating group, and that many of these people come into this group for a year or so and then they move out and become a part of the general extension program of the county.

EXTENSION WORK IN KENTUCKY

Mr. NATCHER. Mr. Peterson, I want you and Mr. Ferguson and you other gentlemen to know that people in my home State of Kentucky appreciate the many benefits that they have received from the Extension Service. There is no State in the United States that has received more benefits than has my home State of Kentucky. I know of the fine work that this Department has rendered to American agriculture for the past 20 years and I say to you not only as a Member of Congress but as a citizen of Kentucky that I appreciate it.

Mr. PETERSON. Thank you very much, Mr. Natcher.

Mr. NATCHER. I am very much interested in this rural development program that you mentioned a few minutes ago. In my home district, eight of my counties are listed in the low-income group, marked "seriously low." The people in Butler County appreciate the fine work that is now being done in this particular county under this rural development program. If you asked me to select a county in my section of Kentucky, after dividing the State into two equal parts, that this program should be started in, knowing the counties as I do, I would have selected Butler County. Not a county in Kentucky, in my opinion, qualifies better for this type of a program than Butler County does.

I wonder if it would be too much trouble if Mr. Kepner or one of your staff could file a short statement at this point in the record pertaining to the program in Butler County.

(The statement referred to is as follows:)

PROGRAM IN RURAL DEVELOPMENT, BUTLER COUNTY, KY.

The inauguration of a rural development program in Butler County, Ky., was discussed with local residents by members of the Kentucky State Rural Development Committee in early fall 1956. The idea for launching such a program was most enthusiastically received by the residents of Butler County who proceeded to set up a local rural development committee and at their first meeting established subcommittees as follows: Agriculture, industry, social development, education, public relations, and executive.

The Kentucky Extension Service made available two additional county workers—an associate county agent and an associate home demonstration agent—and the Soil Conservation Service has provided a work-unit conservationist and half time of a soil-survey man. The State vocational education department has placed two additional vocational teachers in the county and plan to add another soon. Although the committee's work is just getting underway, they are under-

taking inventories as to the potential for introducing new industries into the county, are inventorying the underemployed labor force, are investigating credit needs to help bring about improvements in the area, are exploring with school officials the need for industrial vocational training in the high schools, and are investigating the possibilities of improvements in agriculture with current interest centered on improvement in egg production, both for market purposes and for hatching. Since getting organized in the county several representatives of the county committee have visited both Tennessee and Mississippi to study their development programs and to get ideas as to how the work in Butler County may be speeded up and made most effective.

From all evidence this work is getting underway in Butler County with the whole-hearted support of the local leadership.

Mr. NATCHER. I have been very much interested in the discussion that has taken place concerning the amount of the annual appropriation and the increases. As I recall, $1,300,000 of the increase is for the rural development program. Is that correct?

Mr. PETERSON. That is correct, sir.

SALARY LEVELS OF AGENTS

Mr. NATCHER. In my district, Mr. Peterson, we have, as I have pointed out to you on other occasions, 15 counties. Our county agents, all 15 of them, are well-qualified, dedicated men. These men are college graduates and most of them married with families. Some of these men now have children who are in college. Increases are requested for this Department. I hope that you are keeping in mind the necessity of salary increases for our county agents. Additional employees are needed in the local offices, but an adequate wage for our agents is more important. What do you have in mind concerning this matter, Mr. Peterson.

Mr. PETERSON. Mr. Natcher, we have called that problem to the attention of the States repeatedly. I have personally, and I know the members of the Extension staff have. You understand that the salary levels are fixed within the State, but we have certainly encouraged the States to give attention to that problem, with a view to retaining capable and, as you say, dedicated men. We certainly agree with that characterization.

Mr. NATCHER. I am glad to hear that, Mr. Peterson. I am glad to know that you are pointing out to the States and to the different extension departments throughout the United States the importance of this particular matter. I know it is fine to have an assistant county agent and to have the offices well staffed and, as mentioned a few minutes ago, a program wherein you have your county agent, your homemaker, and one other individual to work with the county committees; but at the same time I think it is more important to see that the county agent is paid a salary commensurate with our present-day living costs.

Mr. ANDERSEN. Will you yield?

Mr. NATCHER. I will be glad to.

Mr. ANDERSEN. When I previously asked a question about the addition of $3,050,000 to further strengthen State and county extension work in the back of my mind there was this very problem that Mr. Natcher has brought up. This subcommittee recognizes that, Mr. Peterson. Back in 1947 we had quite a scrap on the floor of the House, and I insisted on quite an increase for extension, so that the word would go down to the various States and more or less force them to give the sort of salaries that were commensurate with the agent's abilities

and home-demonstration agent's abilities. It seems to me that if we could utilize in some fashion this $3,050,000 toward recognizing ability someway, as an incentive toward letting these men and women know that they can qualify for a little additional salary, that we would right there be doing a lot toward strengthening the extension work. We are handicapped, are we not, by the fact that the salary level is set in the State at the State level?

Mr. PETERSON. I would not like to say that we are handicapped.

Mr. ANDERSEN. That is the question I wanted to ask. Do you have anything to say about it here, Mr. Ferguson?

DETERMINATION OF SALARIES AT STATE LEVEL

Mr. FERGUSON. May I comment on that point. Salary levels are set locally and at the State level. It is the responsibility of the director of extension of the land-grant college to establish the level of salaries. We have been concerned with the fact that extension salaries in many States have not been up to where they should be and, as Mr. Peterson pointed out, we have discussed this problem with the States. We shall be very happy to again discuss it with them and very happy to reflect your concern in it, because I have the feeling that unless we can maintain an adequate salary structure we do not attract the kind of young people that we ought to be attracting into extension. Combined with this, of course, is the need for opportunities for these young people to continue to improve themselves professionally, through additional inservice training and professional improvement. So we will again be very happy to bring this to the attention of the States, Mr. Natcher, and I am sure they will be very happy to know of your interest in it.

Mr. ANDERSEN. Further on that, Mr. Ferguson, is there someway this subcommittee could help, for instance, by saying in our report that such and such a sum of money was put in for the express purpose of being matched by the States and counties to assure to the agents or whoever they might be a moderate increase in salary along the line? If this money was put in provisionally for that purpose, it would sort of put the urge on the States and counties to takes advantage of it; would it not?

Mr. FERGUSON. We would have the problem administratively in that kind of a situation since the funds are distributed according to formula, and the problem is not quite the same in all States. I think it would be adequate if you would mention in the report that the Committee looks favorably on the use of these funds for salary adjustments. I think that probably would be all that would be necessary, Mr. Andersen. In the past there has been the feeling in the States that for the most part they should attempt to get their salary adjustments out of State and local funds. I think for the most part they have tried to do that, although in the last year we have told them there was no restriction on the use of Federal funds for salary adjustments. Yet I think they have felt that they should use those funds insofar as possible for pushing the program ahead. I think the directors will be very happy to know of your interest in it, and I would suggest if that is the way the committee feels that you include such an item in the report.

Mr. ANDERSEN. Do you think that would be helpful, Mr. Natcher?

Mr. NATCHER. I certainly do, Mr. Andersen, and I want to thank you for your fine suggestions. This is an important matter to my home State and especially my district. As I pointed out before, 8 of the 15 counties in my district are low-income counties, marked "seriously low." The county agents in my district are working day and night to aid our farmers and agriculture generally. Their efforts and accomplishments are many, and my district as a result of their work is on its way out of the low-income class. I say to you quite frankly that the county agents in Kentucky are not adequately paid. The county agents in Kentucky are listed about 40 in the 48 States. Am I correct in that?

Mr. SCHRUBEN. That is correct.

Mr. NATCHER. Another thing, Mr. Peterson, that I would like to point out to you that I think means a lot to agriculture generally is the home-demonstration agents. As I understand it, these ladies in Kentucky are about 38 as far as salary is concerned in the United States. Am I correct in that?

Mr. SCHRUBEN. That is correct.

Mr. NATCHER. I think this alone shows, Mr. Peterson, that everything possible should be done to get the salaries of these people where they should be, and I am delighted to know that you and the members of your department and of the Department of Agriculture generally are recommending to the States and to the extension departments that this matter receive careful attention. I understand full well the system that is used in the setting of the salaries, and going through my district I have called this to the atention of our county judges and our people in the counties where it will help. I want you to know that I certainly appreciate your attitude in this particular matter. After study I hope that our committee will call this matter up again for attention in our report.

COMPUTATION OF RETIREMENT ANNUITIES

There is one other matter, Mr. Chairman, that I would like to discuss briefly at this time with these gentlemen. I now have pending a bill that provides that the county agents shall in computing retirement time be given credit for vocational agriculture work. I do want to call this bill to your attention, and I hope that when it is called to the attention of Secretary Benson a favorable report will be given to this particular measure.

Mr. PETERSON. We will certainly give it our careful attention, Mr. Natcher.

Mr. NATCHER. Gentlemen, I want to thank you again for the fine statements that you made to this committee and for the fine work you are doing.

Mr. PETERSON. Thank you very much.

EXTENSION WORK WITH INDIANS

Mr. HORAN. I notice, Mr. Kepner, that you have a pilot county in New Mexico. Would there be any Indian population in that particular county?

Mr. KEPNER. It is quite heavily populated by Indians, yes, sir, and inherently low income, of course.

Mr. HORAN. Of course, to me the so-called Indian problem in America is the old story of Cain and Abel. One tended his flocks and the other tilled the land, and they quarreled. We found when the white man went west a nomadic life in most areas. Of course, we settled the country and we set aside reservations for our red brother. At that time tuberculosis was rampant among them. They became the so-called vanishing Americans. We moved in with certain health programs, and today we have reduced the incidence of tuberculosis. They are living longer, and to a large extent the red man is on the increase. It creates problems, because the red race is readily assimilable into the white race. When I first became a Congressman—I always go out and have a powpow with the Indians I represent every year—one of my Indian friends told me, "Intermarriage and intermarriage, pretty soon no Indians." And it is true. Those who signed the so-called McLaughlin Treaty on the Colville Reservation early in this century numbered some 700. Today those on the reservation rolls—and that does not include all of the progeny, because they have to have at least 25 percent of Indian blood—number 4,200, the point being that the Indians are on the increase and the reservation is not getting any larger. So the cry goes up to do something for the Indians.

I believe we have about 25 organizations in the United States today, some very fine organizations and some of them just organized because they can make a living out of it for those who run the organization. Some of them merely aggravate and anger the Indians and keep the pot boiling. So we do not always get someplace in doing something for the Indians, but after about 10 years of study last July 24 the President signed a program designed to do several things on the Colville Reservation. For one thing, we are returning unallotted lands that were held in trust for them—actually public lands, because in the middle 1930's Mr. Ickes took it off the reservation. We returned 818,000 acres to the Indians there. We also required that within a period of 5 years the Indians themselves—and on this point I insisted—propose and set up a legislative program looking toward their eventual liberation from their status as wards of the Government.

Then we have other programs designed to teach the Indian how to live in the white man's way. It is not an easy program. As I say, every year I go up and have a powpow with the Indians. I do flatter myself that most of them trust me. But in that legislative program we will have to teach them things of help to them. We have county agents now on the reservation. It has been going on for about 4 years now, I believe. We would like to teach them trades and that sort of thing, and we would like to help them. As I say, that program has not taken form as yet. We are, however, now working on a program for their rehabilitation. They do have resources on the reservation. In fact, we have a very good Forest Service management there, and most of their income if it is of any importance comes from that. We have found that they can become good mechanics, and that they have real talent. By and large they are very honest.

So I just wondered what procedures you are following in New Mexico, because I look forward to counseling with the Indians I represent, to help them work out a program for their rehabilitation.

I would like to have you comment on how you go about cooperating with the Indian service. I have many friends in that service. I think

they are able men. Like anyone else that is trying to do a job that is confused, they are subject to criticism.

Mr. KEPNER. I would prefer to pass to Mr. Ferguson on that particular question if it is on the broad scope.

Mr. HORAN. I would like to know definitely what you are doing in Sandoval and Santa Fe Counties, N. Mex., and then I would like to have comment from Mr. Ferguson, because I face this program.

Mr. KEPNER. I am afraid, Mr. Horan, I am not going to be helpful here. I will be glad to get the information just as soon as we can. One of our people was in New Mexico about 2 or 3 weeks ago, and I have not questioned him in detail as to exactly what was going on there. The written report which was requested is on the way, so we can supply it later, but as of the moment I cannot provide anything for the record in detail with respect to the program under the rural-development aspect in these two counties in New Mexico.

Mr. FERGUSON. May I take it from there?

Mr. HORAN. Surely.

WORK WITH BUREAU OF INDIAN AFFAIRS

Mr. FERGUSON. This may be just a little confusing, in that those counties in New Mexico marked on the map have been allotted funds under the rural-development program. We are also, as you know, working under contracts with the Bureau of Indian Affairs in 16 States. You will recall that Mr. Lee and I visited with you last year and with Mr. Marshall on this particular effort. This is an attempt to transfer the educational functions of extension from the Department of the Interior, Bureau of Indian Affairs, over to Extension and work through the land-grant colleges. After these 16 States had entered into agreements—and incidentally New Mexico has only a contract for part of the work. We have not contracted for all of the work in New Mexico. As you know, there is a contract in Washington and there is also one in Minnesota. After these State contracts had been negotiated we also negotiated a contract here between the Federal Extension Service and the Bureau of Indian Affairs. They transferred one employee to us, a home economist. The person who had been in charge of the work in the Bureau was retiring, so we went out and hired the best man that we could find any place in these United States for this job, a man who had been director of extension in the State of Oklahoma, a man who traces his ancestry back to the Cherokees. He is now with us. He came with us on September 15. He and a representative of the Bureau of Indian Affairs are now in the process of working with the States on developing this program.

There are problems, of course. We have had to transfer some personnel from one agency to another, and the character of the program has been changed somewhat. The Bureau of Indian Affairs included their credit work in their extension program. That work was left with the Bureau. We are not in the credit business. So we have had a little problem getting the folks acquainted with this new procedure. I think the program is working very nicely. We are not without problems. We are quite aware of that, and it is not going to be an easy thing to accomplish. Yet I believe the States are going into it wholeheartedly, and we are getting very fine support from the Indian people themselves. Mr. Brown reported to me just the other day

that at one of these conferences when it was explained that in this new concept the extension work would not involve credit some of the leaders of the tribe said in effect, "That's fine."

We think there is a job here to be done in the field of education, and we do not think that it ought to be confused with credit. However, it is going to take just a little time to get the Indian folks themselves oriented to thinking in terms of education being separated from credit. I am very happy with what I have seen up to the present time. Incidentally, we have some pictures here which you folks may be interested in of things that are happening in extension work on the reservations. I feel that the program is going along about as well as we could hope to have it go.

4–H WORK

Mr. HORAN. I want to say this for the record. Now, 4–H work has been instituted, and thanks to some of our leading citizens in these counties who have been helping to promote 4–H work and that sort of thing, 4–H work is increasing. I also hope to see the Future Housewives have projects initiated there. Since that happened, I noticed their county fair, and also the Indian fair—the 4–H exhibits are increasing. They were quite meager the first year they had that, but they are improving. A couple of brothers named Friedlander, young kids 2 years ago went down to Yakima and placed 1 and 2 in the stock judging competition. A girl by the name of Orr has had auditions in opera work in Chicago. Last year she sang at the farm forum in Spokane. Her sister, who is 13, is in the process now of painting an oil painting of Chief Jim James for me. The talent is there. It will take a little different approach to get the expression from the Indian than from us descendants of European peasants, because we approach things in a little bit different way.

But I would be very anxious to find out what your program is, because inescapably, as long as I remain in Congress, I have a responsibility there. I am actually author of the bill I mentioned; although it does not have my name on it, that passed last summer. And it called for this program. I would be interested to know more about this, because we are in this, and the program is underway, and we want to make as few mistakes as we can in the promotion of this most interesting and, I think, quite fruitful possibility in this field.

Now, I would like also to find out why in the Panhadle of Texas those 14 counties that we had to take off crop insurance a year ago do not show up in red.

Mr. FERGUSON. My comment on that, Mr. Horan, is this. The colored map was made in 1950. We think that a map made today would probably reveal some other areas of need. I think when we get our requests in from the States for this year, that we are going to find requests coming in from those areas which have been very hard hit by this drought. I am confident there will be some requests from that area.

Mr. HORAN. I have been bedeviling other sections of the Department and witnesses on this business of economic units in farming. I assume that one of the main factors in these low-income groups here is you did not give the man a horse he could ride in some sort of rural production.

INTERAGENCY COOPERATION

Now, my third question—and this is very near to my heart also, and we have discussed this, I have discussed it with Mr. Hanson of the Farmers' Home Administration, and I believe I discussed it with you, Mr. Ferguson—is the matter of some sort of a pattern of cooperation between all of the services that go into the Department of Agriculture's attempt to help the farmer in any given community. Sometimes we have confusion caused by animosities and sometimes jealousies between county agents, soil conservationists, and so forth. We do have occasionally the type of mind that has to create antagonisms or he does not think he has gotten any place.

I just wonder what sort of a pattern we are evolving to divide the labor and to maybe rotate the boss, and that sort of thing, so that we have the most complete possible cooperation between all of the various services.

Now, I ask that question because involved in rural rehabilitation eventually must come into the picture the matter of credit. We have the Farmers' Home Administration—and heaven knows this subcommittee has told them not to loan money to a man that is just going to go broke, because we break hearts that way, too, as well as pocketbooks.

Mr. PETERSON. We have two basic programs, with which I have some familiarity, involving the interagency forces and interagency cooperation. One is the rural development program which we have been discussing here, and the other the Great Plains program that is now getting underway.

Mr. Kepner outlined earlier the committee pattern that involves all the agencies with other outside agencies, State and private, working together, for basic cooperation, to set a pattern for which and to achieve which are two different things. But at least the mechanics are there. And it becomes an administrative responsibility, each agency's administrative forces, as well as the Secretary's Office, to evaluate the degree of cooperation as the program unfolds.

GREAT PLAINS PROGRAM

In the Great Plains program we have set up an interagency working group within the Department which, as a working group, develops all of the policies and procedures which will be used in that program and comes through the Secretary's Office for approval before they are implemented. Again, it will require follow through to see the cooperation is as intended when the procedures are outlined.

Mr. HORAN. I want to say this: We have in one of my counties the prettiest teamwork you ever saw between the soil conservationist, Mr. Bisby, and Al Esta, in Douglas County. They work together just like a team. And Douglas County is one of our finer counties. It pays off. One man might be just so strong, and another man just so strong, but together they have got the strength of three men. And we have got to have that. We have got to get rid of the sour apples in the box, too. That has to be done. If it takes higher wages, we ought to pay it, because a lot of damage could be done by a man that is not fitted for his trade in that field.

Mr. PETERSON. Insofar as time has been available to me, I personally got out in the counties in various parts of the country. That is one of the things I have attempted to investigate into wherever I have been. Now, there are places where the level of cooperation, as I have found it, has not been what I would call good. My own experience is that that is the exception rather than the rule. Generally the level of cooperation appears to me, with what attention I have been able to give to it, to be very good.

Now, as I have questioned our administrative people—Mr. Ferguson, Mr. Williams, Mr. Kepner, and others—they give me similar reports, that there are specific places where we have problems. But overall it seems to us to be reasonably good. Now, there may be others who would apply different judgments. Mr. Marshall earlier mentioned a different type of problem which we have in utilization of resources. But certainly this one of the maximum cooperation that is necessary to maximum effectiveness of agency and departmental programs, we certainly have given and intend to continue to give close attention to that area of work, cooperation between agencies.

Mr. FERGUSON. Mr. Horan, may I follow Mr. Peterson's comment to give you an idea specifically of how we have attempted to go at this? This question came up about a year ago with the Farmers' Home Administration as to how we could dovetail our energies and do a little better job.

STUDY OF INTERAGENCY RELATIONSHIPS

In cooperation with Mr. Hanson's office, we set up a joint task force, 2 people from his office and 2 from ours. They made a study of 13 situations. They took 13 States, and took a specific county in 13 States, a random sample county, to find out what was being done in those counties which made for good cooperation. In other words, we tackled the thing on a positive objective basis.

As a result of that combined study, we have come up with a 10-point program which we have talked over with our extension people in the States, which Farmers' Home has talked over with their people in the States. And I will just very quickly run over the 10 points for you. They reveal definite action which seemed to make cooperation work.

First. Maps showing the location of borrowers and of extension group activities, 4–H and homemakers clubs, so everyone knew what was going on.

Second. The exchange of bulletins and information to be used by both agencies assisting these families.

Third. The attendance of home-demonstration agents and extension workers at borrowers' meetings and the attendance of county supervisor or borrower leader at extension training schools and special meetings. In other words, trying to get the people crossing over.

Fourth. Home-demonstration agents assist the county supervisors with year-end analysis discussions with those borrowers having special family-living problems, so that they were brought in contact with the home agent.

Fifth. Family participation in extension clubs and other farm and community meetings.

Sixth. Home-demonstration agents take the initiative in getting the knowledge of materials, program, and special activities to Farmers' Home Administration supervisors. The Farmers' Home Administration supervisors take the initiative in getting materials to the borrower families, and in requesting help.

Seventh. Exchange of information through newspapers, radio and television.

Eighth. Emphasis on help to new borrowers and the young families.

Ninth. Continuous screening of family needs by the county supervisor to discover individual family needs.

And, tenth, individual assistance to the families by the Extension Home agent or the extension worker when needed.

Those were the 10 points that we worked out between the 2 agencies. That information has gone out to the States, and we are encouraging the State directors and the State supervisors of Farmers' Home to sit down with their staffs out there, and see how they can implement that and add something else to it.

PROGRESS IN BUTLER COUNTY, KY.

Mr. HORAN. I will be very interested to follow the progress you are making in Butler County, Ky., because I think you have a challenge there, the unevenness of the ground, subject to periodical floods. But I do think you have the type of people, as far as I know, in the human beings that live there you have a pretty good asset to work with. I assume, however, it is going to take the highest quality of cooperation, because as I see it, you have not only some land-use planning to contrive—your soil conservation work will have to be stepped up if you are going to improve the situation, just from your description of the terrain, and you are going to have to study the pattern of ownership. I don't know what experiments you run on what type of crop should be produced there. I don't know enough about it. If it is one thing, you may be able in some cases to reduce the acreage. But if it is another, you may have to increase the acreages per unit. It is a challenge. It is one, though, that most of us would enjoy meeting, if we could, because it is always heartening to produce and to achieve something.

I am very much for this rural redevelopment and have been from its inception, when the President made his report to Congress in 1955. I am happy to see it under way.

I have had some experience in land-use planning. And I know that there isn't anything that cannot be achieved unless the gods of the weather are very contrary.

That is all, Mr. Chairman.

EXTENSION WORK AMONG THE INDIANS

Mr. MARSHALL. Mr. Ferguson, in the matter of extension work among the Indians, the funds that Congress appropriated are divided among the States on the basis of farm population.

Mr. FERGUSON. That is right.

Mr. MARSHALL. So, actually the Congress in the appropriation takes into consideration the Indian population.

Mr. FERGUSON. That is right.

Mr. MARSHALL. So from that standpoint you are under somewhat a directive from the Congress to take into consideration the extension work among the Indians.

Mr. FERGUSON. That is right, Mr. Marshall. The additional assistance that we have from the Bureau of Indian Affairs in the Department of the Interior has compensated to a large extent for the lack of support that we would normally get from counties, because in many cases where there is a reservation involved there is no local tax revenue, and these funds have helped us move along in those areas.

Mr. MARSHALL. In connection with the rural development program, have you taken into consideration any counties in your future expansion having an Indian population?

Mr. FERGUSON. We are depending on these State committees, to take a look at their situation in the States. I think as soon as we possibly can get the data, we want to revise the map that was made based on the 1949 census. Do we have enough data on the 1950–55 census to bring that map up to date, Mr. Kepner?

Mr. KEPNER. The technicians would have to answer that question—I am not working with that. There are many counties outside of these colored areas that could well have been colored, but this map is developed upon a census area basis. So that those isolated or individual counties that might well have been colored on this map do not appear by virtue of the fact that you have a whole area thrown together. As far as the Department is concerned, I see no indication that we would have to adhere to colored areas on this map, providing the county selected does meet these general criteria.

So this is not, as I understand it, Mr. Peterson, a rigid boundary we are going to adhere to.

Mr. PETERSON. It is not.

Mr. MARSHALL. One other question, Mr. Ferguson. In your discussion with Mr. Horan, you spoke about the fact that you were having a problem, since the Indian Bureau formerly had their loan policy and their extension work tied together. What has been the attitude of the Farmers' Home Administration in picking up this type of a loan?

Mr. FERGUSON. The Indian Service is continuing their loans, Mr. Marshall. I did not want to leave the impression that the Indian Service is not continuing their loans. We have not taken over the loaning function. Our only problem is to get the Indian folks themselves to understand that an Extension man now is a little different kind of an Extension man than he was over with the Bureau of Indian Affairs, because when he was over there, they thought of him as a loan man, and now they need to think of him as an educator. And the interesting thing is that where we have had conferences—as you see in these pictures, where Mr. Brown has been out and visited with the tribal leaders in many of these areas, Mr. Horan, these tribal leaders have said in effect, "This is good. We think this is the way it should be. We want people out here to do educational work and not mix that up with our loan business." So I think that Mr. Brown is finding that the folks are accepting that idea, and they like it, after it has been explained to them and they understand it. I think the problem is getting an understanding of it.

Mr. MARSHALL. Ought not some of the programs of the Farmers' Home Administration be made available to the Indians?

Mr. FERGUSON. I don't know enough about their operations to know whether they do make loans to the Indians or not.

Mr. PETERSON. I don't either. I am not familiar with that, Mr. Marshall.

Mr. HORAN. I want to say that they do have several million dollars in their tribal funds, so they are not bankrupt. Of course, most of the revenue comes from revenues from very well managed timberlands. But it is in a climate where it takes 120 years to grow a commercial tree—so that the forest that is their principal asset as of the moment, some of the allotment owners will be rich, and then it will be 20 years before they cut a tree on their allotment, and so they are pretty poor by that time. We have made some improvements on reservation management that allows them to make shifts there. We are gaining on this thing. It is slow. But it is a field for this type of rural redevelopment and human rehabilitation. And it will require intelligence in working it out. And we cannot escape it.

Mr. FERGUSON. Right.

Mr. MARSHALL. Mr. Vursell.

EXTENT OF RURAL DEVELOPMENT PROGRAM

Mr. VURSELL. Mr. Ferguson, do I understand that this rural redevelopment will ultimately affect probably a thousand counties or more?

Mr. FERGUSON. There are about a thousand counties at the present time, Mr. Vursell, which, according to the information that we have been able to get from the research people, have this problem to a marked degree, and where folks are in a situation where they need additional sources of revenue and income. We would hope that the influence of this program as developed through pilot counties would spread over into these other counties and help pull up the general economic level of all of these counties.

Mr. VURSELL. Now, the purpose of this is to amalgamate leadership in the various types of progress in various ways, including bringing in opportunities for off-the-farm employment and developing better farming and better methods. And as I understand it, it is the cooperation of the leading forces in any community working together to help raise the economic unit of the people of that particular locality or town.

Mr. FERGUSON. That is exactly our feeling about it. We feel that there is a tremendous amount of good human energy and a tremendous amount of good brain power out there that can be harnessed, which in turn, can greatly affect the general economic and social welfare of those communities. We also feel that this is going to be done in the long run by those people themselves, harnessing their own resources, using their own abilities to get this job done. And that our part in this, as agency people and as Government, is to give them the stimulus, the help, the encouragement, to do the thing for themselves, rather than do it for them.

Mr. VURSELL. In other words, to help them to help themselves.

Mr. FERGUSON. That is right.

Mr. VURSELL. I think that is a rather sound base and in the long run is much better than to give the help and let them be recipients, rather than them having the leadership and then they have the pride

that they have been able to pull themselves up, and they are more likely to keep going economically and every other way.

Now, is this program a program that when it starts it will never end so far as the Federal Government is concerned, and will continue to spiral as to the cost to the Federal Government, or do you visualize a termination date as to the costs to the Government?

Mr. FERGUSON. We would visualize and we would certainly hope that this would not be a continuing and expanding expense to the Federal Government. That would not be our concept of it. Our concept of it rather is that the Federal Government can give the necessary stimulus and leadership to get the program started, improve the general economic situation in the county, or the area, sufficiently that it from there on can operate under its own steam.

Mr. VURSELL. I think that is a splendid idea—because I have seen the redevelopment of the entire southern Illinois, the greater part of it, and most of the leadership has established pride in getting ahead, and it has done a good job and really made a very great accomplishment as reflected in the production and the wealth of that entire area in the northern part of, say, southern Illinois, and in southern Illinois generally.

ESTIMATED COST OF RURAL DEVELOPMENT IN FISCAL YEAR 1958

Now, another question I had in mind is how much do you have in the budget to bulwark this thing financially for 1958? What is your estimate for 1958?

Mr. FERGUSON. $1,300,000 for fiscal 1958. That is the increase—$640,000 currently appropriated, plus $1,300,000 for this year, Mr. Vursell.

Mr. VURSELL. Now, do you have an estimate as to where you think it would go in 1959 and 1960, roughly speaking?

Mr. FERGUSON. No; we have not attempted to project that. I think the program is a little too new yet to make an accurate projection. I think we are going to have to get a few years of experience here with it to see how rapidly we can begin to taper off in some of these areas and have the people take the thing over themselves. Some of that will depend, as I see now, on how successful they are in building their own financial resources in those areas. In some areas, it may come rather rapidly. Take for instance the case of this county I mentioned in southern Ohio with this aluminum plant going in. I would expect that that will take place rather rapidly there, that within a year or so those people will be on their feet and on their way. There will be some other counties that will not be quite as fortunate as that county was. It may take a little longer in those situations.

Mr. VURSELL. Probably 3 or 4 years.

Mr. FERGUSON. Yes.

Mr. VURSELL. Three years would be rather rapid tapering off, I would imagine, anyhow.

Mr. FERGUSON. I would think so.

APPROPRIATIONS LIMITED BY LAW

Mr. SCHRUBEN. I might mention one point, and that is the legislation, section 8, does limit the amount that can be appropriated under

this act to 10 percent of that amount appropriated under section 3.

Mr. VURSELL. I didn't get that.

Mr. SCHRUBEN. The legislation authorizing appropriations for rural development is limited to 10 percent of that amount which is appropriated under section 3 of the Smith-Lever Act.

Mr. FERGUSON. The purpose being that just as quickly as possible this work ought to be taken over by the regular resources. But in order to get it started and off dead center, it is our feeling that we need to give it a little initial push here to get it going, and to give the people the feeling that they can really take this thing and go with it when they have a little help.

Mr. VURSELL. There is no partnership in this with the State or local counties?

Mr. FERGUSON. No required partnership financially. There is a partnership, of course, in terms of the amount of effort that is put in by the State extension services over and above that which will be used to put people on the job. So while there is no required matching of these funds, actually there will be a good deal of State resources going into it, and we would encourage that to increase.

Mr. VURSELL. I would think that there would be considerable participation, whether it was absolutely requested or not, because if you are going to get the leaders of various forces in the county cooperating in a joint effort of this kind, very likely they will enmesh that with a desire that is in nearly every county to help themselves, and getting the two together, you might find that the county would make a rather large financial contribution, particularly where they try to bring in industry and things of that kind.

Mr. FERGUSON. That is right.

Mr. VURSELL. To make jobs for people.

I think that is about all, Mr. Chairman. It sounds to me like it is a step in the right direction. But I am one of those that is a little fearful in getting the Government bigger and bigger and bigger all the time, whether it is in agriculture or anything else, because I think there is going to come a time when if you take enough tax money out of the pockets of the people, that we may get into trouble, and it might not be too far off.

Mr. FERGUSON. We share that concern with you, Mr. Vursell.

Mr. NATCHER. Mr. Chairman, I have one more request. I would like to know the average county agent's salary for Kentucky. Can you give me that information.

Mr. SCHRUBEN. Yes, sir. The average county agent's salary for Kentucky is $5,497.

Mr. NATCHER. Can you give me the average salaries of the associate agents and the assistant agents for Kentucky.

Mr. SCHRUBEN. The associate agent's average salary is $4,836 and the assistant agent's average salary is $4,200.

Mr. NATCHER. Now, can you give me the average salary in Kentucky for the home demonstration agent.

Mr. SCHRUBEN. $4,518.

Mr. NATCHER. Can you give me the average salaries for the associate and assistant home demonstration agents.

Mr. SCHRUBEN. The associate home demonstration agent's average salary is $4,000 and the assistant home demonstration agent's average salary is $3,523.

Mr. NATCHER. Can you give me the national average salary for county agents, associate agents, and assistant agents.

Mr. SCHRUBEN. The average national salary of county agents—and this is an average of State averages, and not a weighted average based on number of employees—is $6,118, for associate agents it is $5,276, and for assistant agents, it is $4,625.

Mr. NATCHER. Will you be kind enough now to give me the average salary for the home demonstration agents, the national average, for associate and assistant home demonstration agents.

Mr. SCHRUBEN. The averages for home demonstration agents is calculated the same way as for county agents. For home demonstration agents it is $4,923; for associate home demonstration agents, it is $4,321; and for assistant home demonstration agents, it is $3,876.

I might say, Mr. Natcher, that all of these people are required, as a minimum in academic training, to have a bachelor's degree in either agriculture or home economics, before they are employed as even assistant agents.

Mr. NATCHER. Thank you, sir. I appreciate that.

FUNDS REQUESTED FOR MARKETING EDUCATIONAL WORK

Mr. MARSHALL. Mr. Ferguson, you have an increase of $150,000 for county agents to carry out marketing educational work. Just how is it planned that they will do that?

Mr. FERGUSON. This is marketing work, that is appropriated under the Agricultural and Marketing Act. That work is conducted on either 1 or 2 bases. One, a mutually worked out agreement between our office and the State for a marketing program. The other—we have done some work with States on a direct contract basis, particularly where more than one State was involved in it. This is a program designed to bear through the processes of education, the research findings in the field of marketing to those people who are concerned with the distribution and the utilization of our agricultural products. Some of that work starts with the farmers, some of it will be with the handlers and processors, some of it may be with consumers.

It is designed to have people better understand the marketing processes on the one hand, to apply better methods to the marketing processes, and to improve both the technology and the economy of the marketing process.

Incidentally, in this area, we have moved out, as I mentioned in my formal comments, in the field of extension work in utilization. We have had very good success.

I thought you might enjoy seeing some of these samples. We have had very good success with this program. It is new. These 4 people we put on our staff, are working in cooperation with the 4 regional laboratories and the State land-grant colleges and industry, with the idea of getting into use some of these new developments.

For instance, here is a sample of potato powder. We have had trouble with potato prices at times. The interesting thing is that few products have undergone any more changes in recent years than potatoes have in the marketing process. For instance, most of the potatoes you get in a downtown hotel or retaurant are not peeled in that plant. They are peeled by a peeler who sells them to the restaurants. That has introduced a great many problems on how to peel these potatoes

and handle them and care for them as they move from the peeler to the market.

Another with which you are familiar, is frozen french fries—and chips. Chips today are taking a tremendous volume of potatoes.

And then this potato powder, which has been developed by the Department in one of its regional research laboratories, is a quick and easy way of preparing potatoes.

These other products here—dried pineapple and citrus juices and tomato juice are put up in this form—are being introduced.

One purpose of this work will be to acquaint the trade with the new things research is developing in order to get a quicker acceptance and a quicker use of some of these new processes by the distribution trade.

The $150,000 is designed to give encouragement to this whole area.

RELATIONSHIP OF RESEARCH AND MARKETING WORK

Mr. HORAN. May I ask a question on that point? What is the cooperation and the coordination within the Department on this sort of thing?

Mr. FERGUSON. The research work?

Mr. HORAN. I know the research work, but how about the marketing services?

Mr. FERGUSON. Well, in the marketing service they are doing good research work. We work with them closely and help develop programs that carry this information out to the trade. Most of their work of a service nature is of technical advice, whereas ours provides educational assistance to the trade. There is excellent cooperation. I don't think we are duplicating each other's work at all. These funds will be used to strengthen the educational side. The work of the marketing service is primarily in the field of direct technical service in some of these fields.

Mr. PETERSON. You might say the Agricultural Marketing Service works with the physical problems—introducing, handling, presenting, packaging new products that research has developed. The educational phase creates an awareness of the fact that the products are there, and how they might be used to fit into the normal food-trade processes.

INCREASE IN PERSONNEL ON NATIONAL BASIS

Mr. HORAN. That is all.

Mr. MARSHALL. There is another item of $244,460. This item is largely for increase in personnel on a national basis, is it not?

Mr. FERGUSON. Yes, sir.

Mr. MARSHALL. Could you tell us what you intend to do with each of your new positions?

Mr. FERGUSON. The first position that we would like to set up under this is an assistant director in our division of 4–H Club work. The demands on our 4–H Club office are extremely heavy. We have operated up to the present time without an assistant director. We would like to strengthen our work by adding an assistant director.

The second job is that of a home economist to work in the field of informational materials. As a matter of fact, this person would be working on better ways of presenting home economics informa-

tion, providing assistance to the States in getting out information to home makers.

The third area is that of marketing, and this comes about by virtue of the fact that the States, in some cases, are handicapped in working in markets where the commodities come from several States. For instance, take the New York market, the State of California has been in a position of having to send a person from California to work part time in the New York market. While they are there, they are concerned almost entirely with California products. We would like to place some of these people in the major markets to work in cooperation with all of the States which are supplying perishables to that market, to develop an on-going program in cooperation with the States, to help strengthen and improve the total handling and distribution of perishables.

Another position would be that of specialist in the field of fiscal and personnel management. In our work with the States, we are called upon to render a great deal of assistance in this field of general management as it affects budgeting, personnel, procurement, and so forth. We do not operate on a basis of a direct line of authority, but rather in an educational way. We are in need of someone to strengthen that particular type of request from the States for assistance.

The other two positions are positions to strengthen our program of extension research and training, particularly the side of it dealing with studies of extension methods and the effectiveness of extension programs.

We have one division in the Federal Extension Service which is concerned with helping the States make studies of extension methods and extension programs which will make them more effective. We have a small staff in this particular area, and we have a need for two people to give support to this program, helping to bring together the necessary information, to plan and prepare work schedules for these studies, to assemble and tabulate extension research data, and to follow through with routine research operations.

That would be the purpose, Mr. Marshall, to which we would put these funds.

USE OF PERSONNEL FOR EDUCATION IN TERMINAL MARKETS

Mr. HORAN. Is your authorization broad enough for you to justify this activity, using extension personnel for purposes of education in the terminal markets?

Mr. FERGUSON. Yes; particularly under the Research and Marketing Act we would have the authority, in fact, an obligation to develop an educational program in the field of marketing.

Mr. HORAN. Of course, I am not objecting to the activity. Now, for years the California, Oregon, and Washington Pear Bureau has been doing exactly this sort of thing. The Washington State Apple Commission carries on activities exactly along this line. It was made necessary because when we first went from the green grocer to the cash-and-carry sort of store, we found that the old green grocer knew how to handle the perishables he received. He ripened fruit, for instance, in his back room. But when we got into mass-production type of retailing, we did not always have that type of responsibility and that type of information, and so we found it necessary in the fruit

industry in the West, where we are so far from our markets, to try to insure our operation and our continued markets by this sort of activity. There is no question but what it paid off. But I was just wondering.

Mr. PETERSON. I am sure that we would not intend, and would deliberately try to avoid, any duplication or interference with the work that established producer organizations are now performing in this area. But the problem of produce handling in relation to what kind and quality should be produced, and how it should be packaged and shipped in relation to market demand is so broad that we feel that there is an opportunity to perform a service of value to growers and growers' representatives in point of production in this type of work.

Mr. HORAN. Of course, that raises another question. Those who are already financing their own activities in this field might ask some embarrassing questions about why shouldn't they let the Federal Government do the thing that costs them, in some cases, 8 or 10 cents a package unit now.

Mr. PETERSON. That is a possibility, certainly. As I understand this program, it is not as intensive as the work that the Washington-Oregon Pear Bureau, the California Citrus Growers, the Washington Apple Commission, would do. They have a highly specialized, quite a high-value crop, which those organizations represent. And their marketing problems have been such as to develop much earlier than public work in marketing, that they, in self-defense, had to get into those markets. I would not visualize that the work to be done here would be of the intensive nature on the particular commodity that the commissions are now doing.

Mr. FERGUSON. That is right. As a matter of fact, our rule is to supplement what they were doing with an educational program, Mr. Horan. We want to work with them and help in any appropriate way with that particular type of work. Where industry will take this job on and do it, in my opinion Government should not do it. However, we have an obligation to conduct educational work in the field of marketing the same as we have in the field of production. That, of course, goes back under the original Smith-Lever Act. I was interested in reading not long ago the report that Congressman Lever's committee made at the time the Smith-Lever Act was passed in 1914, pointing out the importance of Extension doing work in the field of marketing and distribution. We have, over the years, done some work in this field, but I do not think that we have pressed it as hard as we should have, and we feel that there is a place where we can very greatly improve the efficiency and reduce the costs of the distribution of our agricultural products by educational work with the trade, the receivers, the shippers, the wholesalers, and the processors, in much the same way we have with the farmers, in order to improve the general distribution system.

Mr. HORAN. Along the lines of your testimony, Mr. Ferguson, could you be aiming at the partial or maybe complete avoidance of an instance that occurred in the State of Ohio, in one of the big metro-

politan centers, several years ago, when a tremendous volume of fresh vegetables had to be destroyed because of spoilage?

Mr. FERGUSON. While I am not familiar with the details of that particular situation, one of the major objectives of extension work in marketing is to avoid just such situations. However, we did, when I was in Ohio, a good bit of market education work. And I would say that to a very large degree the improvement in quality in many products—and the one that I was personally interested in most was eggs—was accomplished though an educational program which we conducted, not only with the farmers, in improving the quality of eggs on the farm, but with the handlers, the shippers and the retailers. As a matter of fact, we conducted an extensive educational program with the retailers on such matters as just how do you handle eggs in the retail store. And prior to the time that that program was initiated, eggs, for the most part, regardless of when they were sold, were displayed out on an open counter, at room temperature, and that was not always conducive to good quality.

After that program got underway, within a year or so, practically all the eggs in those stores with whom we were working went under refrigeration, and the saving in quality was tremendous.

That is one type of improvement, Mr. Horan, that we are interested in and concerned about in educational work in the field of marketing.

Mr. SCHRUBEN. Mr. Chairman, to supplement and possibly provide a little more information regarding your specific question as to the legal authority or the legal responsibility for doing this kind of work, the type of activity Mr. Ferguson was discussing was a type of activity that would be undertaken by the Federal Extension Service, and the Federal Extension Service does have the responsibility for administering the provisions of three acts. There is, of course, the Smith-Lever Act; and then the Smith-Lever Act amended by Public Law 360, which is the act of August 11, 1955; and then the Agricultural Marketing Act of 1946. The particular wording in the Agricultural Marketing Act—and the particular activity he was talking about referred to is:

> Marketing educational and demonstration work done hereunder in cooperation with the States shall be done in cooperation with the State agricultural extension service.

The $150,000 would be on the basis of matched fund projects carried out by the States, and the 4 positions Mr. Ferguson referred to here would be responsible for increasing the effort of the Federal Extension Service in carrying out that program.

Mr. HORAN. It is an interesting field. There is no question about it.

Mr. MARSHALL. Mr. Ferguson, when you appeared before the Bureau of the Budget with the request for this $244,600 appropriation, you made some suggestion as to the amounts that you would need in each category.

Mr. FERGUSON. Yes, sir.

Mr. MARSHALL. Could that be supplied for the record at this point?

Mr. FERGUSON. Yes; we will be very glad to do that.

(The material referred to is as follows:)

FEDERAL EXTENSION SERVICE

An increase of $244,460 is necessary to strengthen the Federal staff to facilitate carrying out the increased responsibilities resulting from the expanded extension program in the States and Territories:

	Man-years	Proposed increase for 1958
Personal services:		
Permanent positions: Assistant director, GS-14, specialists in marketing, GS-13, home economics assistant, GS-12, specialist in fiscal and personnel management, GS-12, research assistants, GS-9, secretaries and clerks	19	$146,431
Total personal services		146,431
Travel		35,000
Transportation of things		10,214
Communication services		5,000
Rents and utility services		
Printing and reproduction		10,000
Other contractual services		5,000
Services performed by other agencies		11,000
Supplies and materials		6,000
Equipment		6,000
Contributions to retirement fund		9,460
Taxes and assessments		355
Total increase	(1)	244,460

[1] Amounts shown for other than personal services include funds needed to meet deficiencies in present operations as a result of increased costs for transportation, per diem, supplies, equipment, and contractual services.

Mr. MARSHALL. I believe also that you have some problem in regard to retirement, haven't you? The retirement benefits have been increased.

Mr. FERGUSON. There is an item in our budget for the first time, an item for the employers contribution to the account equal to the amount paid in by the employee. The purpose of this item is to carry out the provisions of Public Law 854. These funds previously would have been appropriated directly to the retirement fund. Public Law 854 provides that they be included in our estimates.

Mr. MARSHALL. It would be the employer's share.

Mr. FERGUSON. That is the employer's share.

Mr. MARSHALL. Now, some of these beneficiaries of retirement are employees of the local and State government as well. How do you handle that?

Mr. FERGUSON. These people are all cooperative employees and hold Federal appointments. The Federal Government has in the past taken care of that item through appropriations directly to the retirement fund. This is simply a transfer of that item from the retirement fund over to our budget.

Mr. MARSHALL. Do you have anything you wish to add?

Mr. FERGUSON. No. My only point is they come under the Federal retirement system by virtue of the fact that they hold Federal appointments.

Mr. MARSHALL. Secretary Peterson, Director Ferguson, it is always a privilege for this committee to have you come before us. We are very much interested in your work. We realize that, as far as farm families are concerned, the best way and often their only way to get information concerning all of the valuable factors of research comes through the Extension Service. We think it is a very valuable connecting link. And we think that the security and the living conditions of farm families depend to a very large extent on taking advantage of the wonderful research the Department is carrying on and how well you people do your work out there. And we think that you have done a good work over the years.

We do wish to emphasize this, however. The benefits from research to the farmer have been immeasurable. You cannot measure what the benefit has been. But the control of the farmers' markets pretty well leave their hands when his products leave the farm. And it is there he finds himself at a disadvantage oftentimes with the rest of our society. Sometimes it is a great disadvantage to him.

However, due to the work over the years of the Extension people and other agencies of the Department of Agriculture, we have placed on the tables of the consumers of this country the best quality food products at the lowest hours of labor employed to purchase these fine commodities that we will find any place in the world. And I think that is a credit not only to the American farmer, but also to the people who have carried out the research and informational work that has made that possible.

We thank you.

Mr. PETERSON. Thank you very much, Mr. Chairman. I want to say on behalf of the Department and all of us here that we appreciate the thorough and detailed analysis you folks on this committee made, not only of this budget, but all of the budgets we bring before you. It is helpful to us and, I am sure, helpful to the country in developing a sound budget to support the activities which come here before your attention. Your thoroughness is really appreciated.

Mr. MARSHALL. The committee will stand adjourned until 1 o'clock on Wednesday.

FEBRUARY 6, 1957.

FARMER COOPERATIVE SERVICE

WITNESSES

ERVIN L. PETERSON, ASSISTANT SECRETARY OF AGRICULTURE
JOSEPH G. KNAPP, ADMINISTRATOR, FARMER COOPERATIVE SERVICE
KELSEY B. GARDNER, DIRECTOR, MANAGEMENT SERVICES DIVISION
J. KENNETH SAMUELS, DIRECTOR, MARKETING DIVISION
MARTIN A. ABRAHAMSEN, DIRECTOR, PURCHASING DIVISION
HAROLD D. WALKER, DIRECTOR, ADMINISTRATIVE MANAGEMENT DIVISION
CHARLES L. GRANT, DEPUTY DIRECTOR OF FINANCE, DEPARTMENT OF AGRICULTURE

SALARIES AND EXPENSES

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities: Research and technical assistance for farmers' cooperatives (total obligations)	$422,288	$550,000	$578,000
Financing: Unobligated balance no longer available	4,712		
Appropriation	427,000	550,000	578,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	68	78	78
	Average number of all employees	56	72	72
	Number of employees at end of year	59	75	75
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,974	$6,043	$6,124
	Average grade	GS–8.0	GS–8.3	GS–8.3
01	Personal services:			
	Permanent positions	$340,040	$445,000	$443,288
	Regular pay above 52-week base	1,316		1,712
	Payment above basic rates	773		
	Total personal services	342,129	445,000	445,000
02	Travel	26,653	36,000	36,000
03	Transportation of things	1,109	1,000	1,000
04	Communication services	7,600	9,700	9,700
06	Printing and reproduction	33,433	42,500	42,500
07	Other contractual services	4,467	3,400	3,400
	Services performed by other agencies	2,930	4,000	4,000
08	Supplies and materials	2,226	3,100	3,100
09	Equipment	1,476	4,700	4,700
11	Grants, subsidies, and contributions: Contribution to retirement fund			28,000
13	Refunds, awards, and indemnities	30	300	300
15	Taxes and assessments	235	300	300
	Total obligations	422,288	550,000	578,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$427,000	$550,000	$578,000
Obligated balance brought forward	47,295	36,710	60,710
Total budget authorizations available	474,295	586,710	638,710
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	386,130	489,300	514,000
Out of prior authorizations	44,536	36,700	60,000
Total expenditures	430,666	526,000	574,000
Balance no longer available:			
Unobligated (expiring for obligation)	4,712		
Other	2,207		
Obligated balance carried forward	36,710	60,710	64,710
Total expenditures and balances	474,295	586,710	638,710

Mr. MARSHALL. The hearing will come to order.

At this time we will discuss the Farmer Cooperative Service. We will insert pages 235 through 242 of the justification.

(The material referred to is as follows:)

FARMER COOPERATIVE SERVICE

PURPOSE STATEMENT

The Farmer Cooperative Service was established following the enactment of the Farm Credit Act of 1953 (Public Law 202, August 6, 1953), which transferred the research and technical-assistance work for farmers' marketing, purchasing, and service cooperatives, under the Cooperative Marketing Act of 1926, from the Farm Credit Administration to the Secretary of Agriculture. The Service conducts research, advisory, and educational work with cooperatives on problems of organization, financing, management policies, merchandising, costs, efficiency, and membership to help the 3 million farmers who are members of such organizations improve the operations of their businesses. It cooperates with the Extension Service, land-grant colleges, banks for cooperatives, State departments of agriculture, and other agencies to bring about better understanding and application of sound cooperative principles and practices. The Service also advises other Federal agencies on problems relating to agricultural cooperatives.

The Service carries on its work through three program divisions: Marketing, Purchasing, and Management Services. On November 30, 1956, the Service had 106 employees, 102 of whom were full-time and 4 part-time, all stationed in Washington, D. C.

Appropriated funds:	
Appropriated, 1957	$550,000
Budget estimate, 1958	578,000

Salaries and expenses

Appropriation Act, 1957, and base for 1958	$550,000
Budget estimate, 1958	578,000
Increase (for contribution to the retirement fund pursuant to Public Law 854)	+28,000

Project statement

Project	1956	1957, estimated	Increase in retirement costs (Public Law 854)	1958, estimated
1. Research and technical assistance for farmers' cooperatives	$422,288	$550,000	+$28,000	$578,000
Unobligated balance	4,712			
Total retirement costs (Public Law 854)			[+28,025]	[+28,025]
Total appropriation or estimate	427,000	550,000	+28,000	+578,000

STATUS OF PROGRAM

The Farmer Cooperative Service conducts research, educational, and advisory work for the benefit of over 3 million farmers who are members of approximately 10,000 marketing and purchasing cooperatives and several thousand business service associations. The Service acquires and disseminates information regarding farmer cooperatives to further their sound development. This work is carried on in cooperation with land-grant colleges, Federal and State extension services, and State departments of agriculture.

Current activities

The Farmer Cooperative Service is helping farmers' cooperatives improve their organization structures and operating methods to better serve the needs of farmers. Reduction in costs of farm supplies and improvement in returns for farm products calls for the use of more efficient management techniques in cooperative purchasing and marketing. Changes in livestock and crop production have required the establishment of new marketing organizations or the reorganization of existing associations. A good example has been the formation of cooperative livestock marketing associations in the South to meet producers' needs resulting from the expansion of livestock production as agriculture has become more diversified.

The trend toward large-scale buying of agricultural products by chain stores and other large handlers calls for increased marketing services through cooperatives. Better integrated and stronger cooperatives can give farmers increased bargaining power, greater operating efficiency, and other advantages of large-scale organization.

The Service is continuing to carry on active programs of long-range importance to improve membership and public understanding of cooperative principles and practices. Its annual statistics disclose National and State trends in growth and character of cooperatives.

The Farmer Cooperative Service completed work on 80 projects or specific phases of projects during the fiscal year 1956, and estimates that it will complete about 90 in 1957 and about the same number in 1958.

Selected examples of recent progress

1. *New milk-distributing cooperative assisted.*—A regional milk-distributing cooperative was formed in 1954 to assure a market outlet for 3,500 producers in 5 Southeastern States who had been served by a firm going out of business. The newly formed cooperative acquired the facilities and business of the discontinuing firm and in doing so inherited many of its unsolved difficulties. Faced with heavy losses in becoming established, the cooperative requested an analysis of its operations and advisory assistance on its major operating problems. This study by the Farmer Cooperative Service disclosed that operating losses could only be eliminated by a drastic reduction in operating expenses and the replacement of one obsolete plant. Nearly all the specific recommendations of the Service have been put into effect in varying degree and costs have been materially reduced. This assistance has substantially improved the chance that this cooperative will overcome its major difficulties and continue to provide a market for milk produced by its members.

2. *Fruit and vegetable cooperatives aided.*—During recent years large-volume integrated wholesalers and retailers have increased in importance. They require suppliers of fruits and vegetables to have large volumes of uniformly graded, attractively packaged produce. Often they require such other services as

washing, waxing, hydro cooling, and guaranteed shipments. Individual fruit and vegetable growers cannot furnish these services. Further, their former traditional sales outlets through local buyers cannot absorb the same quantities as in previous years since they represent a smaller proportion of the market. In Ohio, Pennsylvania, Massachusetts, New York, Florida, and Delaware the Service made studies to help grower groups develop marketing organizations or existing cooperatives to provide the services required by the large-volume buyers. These improved grower marketing organizations provide the required marketing services and they offer growers a means for effective bargaining.

3. *Southern livestock producers helped.*—Diversification of agriculture in the South is resulting in a rapid increase of livestock production. This has called for the development of new livestock markets and better marketing methods. Farmers Cooperative Service has been working on this problem with extension workers and college livestock marketing specialists in Mississippi, North Carolina, South Carolina, Virginia, Kentucky, and Arkansas. It has paid special attention to methods of improving feeder calf sales. In Mississippi and Florida livestock producers associations have been aided by studies of their organization and operating problems.

In Mississippi assistance was given the State extension service in the organization of a cooperative association to serve livestock farmers on a statewide basis. Because of limited experience with auction marketing, the management requested help in planning the facilities and the operating procedures necessary in handling large volumes at low cost. Suggestions made as a result of this study are helping the cooperative increase its livestock volume and reduce its labor requirements.

In Florida the Service made a study of the Glades Livestock Market Association of Belle Glade that developed ways to improve organization, financing, facilities, and labor utilization. Its recommendations include lowering the membership investment to broaden the membership base; increasing capitalization from $100,000 to $200,000; saving labor and expense through rebuilding the pens and alleys immediately adjacent to the scales, and installing hydraulic gates on scales and selling more cattle in lots rather than by individual animals to improve labor utilization and to reduce operating costs. This study can be useful to other cooperatives, as well as other livestock marketing agencies that plan to build, equip, and operate a large local livestock market.

4. *Marketing effectiveness of Oregon turkey cooperative increased.*—During recent years major changes have occurred in processing and marketing turkeys. Among these have been development of large-scale specialized processing plants, rapid shift from the New York dressed (blood and feathers removed) to ready-to-cook form, quick-freezing, better and more attractive packaging, and year-around availability of turkey to consumers at food stores, hotels, and restaurants. Organizations which have been slow to meet these changes are having serious difficulties. At the request of an Oregon turkey cooperative, Farmer Cooperative Service made a detailed study to help it market more effectively for its members. This cooperative handled over 5 million pounds of dressed turkeys in 1954–55. This study emphasized the ways in which the association could reduce marketing costs and increase returns to growers by taking steps to strengthen its financial setup, improve membership relations, establish more definite sales policies and programs, and make facility and organizational improvements. The association has already put many of the recommended changes into effect and, as a result, is becoming one of the most progressive and useful turkey-marketing organizations in the country.

5. *Potato marketing cooperatives revitalized.*—During the past year the Service aided two regional potato-marketing cooperatives with their problems of high operating costs, assigning management responsibility and authority, improving potato quality, eliminating waste, and recapturing sales outlets. At their request it carefully analyzed the operations of each cooperative and on the basis of the analysis made specific recommendations. These included methods to strengthen financial structures, internal organization, and membership and public-relations programs, and to revitalize sales departments to cope with changing markets and consumption patterns. Many of these recommendations have been adopted and others are being adopted. In both cases the cooperatives have been greatly strengthened as a result of these studies. Both of these cooperatives are major factors in the potato industry and their revitalization will have a beneficial effect on the entire industry.

The Service also helped a new potato cooperative formed in New York a year ago. Before that growers in the area had no market organization of their own. Local buyers had developed sufficient strength to force growers to compete among themselves for the limited sales outlets. Producers wanted their interests represented through a grower organization. So they formed a cooperative that has already acquired enough volume to assure successful operation. This will benefit the entire area in which it operates. To help this association the Service prepared a report on how it could solve such problems as developing a sales program, defining the marketing responsibilities of the cooperative and the grower, and developing a membership and public-relations program. This work may mean the difference between a healthy and an unhealthy market for a large group of agricultural producers.

6. *Operating standards developed for frozen food locker cooperatives.*—Declining demand for locker storage and the greatly expanded use of home freezers since World War II have caused locker cooperatives to change from strictly locker-rental enterprises to processing and merchandising businesses. These cooperatives have needed assistance in evaluating operations and in developing activities to improve their efficiency and overall usefulness to patrons. As a result of continuing study by the Service operating standards have been developed to improve labor productivity and utilization of plant and equipment. Positive benefits from these studies are illustrated by the following examples:

(*a*) One Illinois association was suffering losses due to overbuilt processing and storage facilities. A Service study revealed excellent opportunity to slaughter and wholesale locally produced meat and to produce for sale cured products and commercial sausage. The Service helped the association set up a producing and merchandising program to meet this situation, and it is now making substantial savings. It is also adding to its processing facilities and equipment to handle increased volume.

(*b*) Another association in the same State operates five locker plants and a large central processing facility. A Service study found that the association had insufficient volume to utilize facilities and labor efficiently, and also suffered from wide fluctuations in monthly volume. It recommended that the cooperative process and sell poultry as a partial solution to this problem. The cooperative now slaughters over 1,000 head per week (excluding custom poultry slaughtering), and is preparing to merchandise its products under its own brand name. This program will be expanded as fast as new sources of high-quality poultry are developed. Poultry produced and sold locally commands a premium price in the area.

(*c*) Labor productivity studies showed that from June through September the decline in custom processing volume was largely responsible for low annual labor productivity in most of the 28 Illinois locker plant cooperatives annually surveyed by the Service. These findings led to programs in the majority of the cooperatives for merchandising bulk quantities of fruits and berries to locker and home freezer patrons. Net returns to members have been substantially improved as a result of this change in operations.

7. *Farm supply services strengthened.*—During the year Farmer Cooperative Service helped several farm supply associations on organization and operating problems. In Arkansas, for illustration, it made an analysis to help the Arkansas Farmers Association revamp its structure and methods to meet new conditions and improve its performance. This organization serves 70,000 farmers through 48 local cooperatives. The association already has adopted a number of the recommendations which will greatly strengthen its efficiency and improve services to farmers through the local associations.

8. *Egg federation improved.*—At the request of 7 Ohio egg and poultry cooperatives, handling over 1 million cases of eggs for 13,000 farmers in 1955, the Service made a comprehensive study of their sales federation. Although the membership and volumes of products have substantially increased over its 16 years of operation, the federation has failed to find sales outlets for the increased volume and to meet changed marketing needs. Suggestions to solve this problem have been favorably received by the federation and its member associations. Steps are being taken to recapture the position of leadership long enjoyed by these cooperatives in progressive egg marketing. As some of the recommendations call for major changes, their adoption will be achieved over a period of time.

9. *Costs reduced by plant location studies.*—The Service has made several studies to help farmers locate cooperative facilities to serve them most economically. Such work involved analyzing available methods of transportation

and transit arrangements and studying of alternative methods and costs of shipment for the commodities handled. For example, such assistance in helping locate a feed plant in a Midwest State will save farmers some $40,000 annually in transportation costs. In several cases these studies have been made at the request of State agricultural colleges which do not have technical transportation specialists.

10. *State cooperative councils appraised.*—At the request of the State cooperative councils the Service studied their organization, methods and problems. Such councils are now active in 31 States and serve over 3,000 farmer cooperatives, with a total membership of over 2 million farmers. These councils perform an important role in developing joint educational programs and in coordinating cooperative activities in the States served. The report, based on this study, shows the strengths and weaknesses of the present council programs and suggests better methods of organization and operation. The report will be especially helpful in giving guidance to new councils.

11. *Public agencies assisted in cooperative educational work.*—Many colleges of agriculture and departments of vocational education carry on extensive staff educational training programs in agricultural cooperation. These agencies need technical information and assistance. During the past year the Service has issued a number of new publications for the special use of these agencies. It has also participated in leadership training workshops or clinics held by such educational workers in 10 States. In this way the Service coordinates its work with the State agencies and helps develop stronger educational programs.

12. *Cooperatives assisted on financing problem.*—Farmer cooperatives are confronted with many new and perplexing financial problems as a result of growth in business volume and expansion of services. Today's high price levels tie up large amounts of capital in accounts receivable. The necessity of carrying a larger inventory and a much wider range of goods than formerly puts pressure on the capital structures of many cooperatives, particularly those endeavoring to finance all their capital needs internally. Likewise, the high cost of new machinery and new construction places definite limitations on the expansion possibilities of cooperatives operating on a pay as you go basis and relying largely on patron capital to meet their financing requirements. Lack of capital and weak capital structure are problems of many farmer cooperatives.

Cooperatives in all parts of the country have recognized the need for more basic information on methods of cooperative financing. As a result of this interest the National Council of Farmer Cooperatives and the American Institute of Cooperation over a year ago jointly requested the Service to make a comprehensive analysis of the methods of cooperative financing. Over 1,150 representative farmer associations of all types and sizes have furnished data for the study. The analysis has already developed much information long needed on sources of owner equity capital and on methods of returning savings to farmers in the form of patronage refunds or in retained savings. The study will provide a better understanding of the business procedures and methods of these important agricultural organizations.

13. *National statistics on farmer cooperatives strengthened.*—Information on farmers' marketing and purchasing cooperatives provided annually has been made more useful by several recent improvements in statistical procedure. The changes provide more current listing of all associations and a better record of new and discontinued associations. Consistent progress has been made in getting more and better data from cooperatives for use in the annual survey. Ninety-two percent of the 10,000 farmer marketing and purchasing cooperatives are now providing such information voluntarily. Improvement has also been made in the form of presentation of survey results. These changes have resulted in a greatly increased demand for the most recent survey report. National farm organizations, cooperatives, land-grant colleges, teachers of vocational agriculture, other educational groups, public agencies, and research workers are making increased use of these statistics. The only available nationwide information on trends in the development and progress of farmer marketing and purchasing cooperatives is provided by Farmer Cooperative Service.

Mr. MARSHALL. Mr. Secretary, do you have a general statement?

Mr. PETERSON. I have a short general statement, Mr. Chairman.

General Statement

Mr. Chairman, gentlemen of the committee, I am glad to discuss with you the 1958 budget estimate of the Farmer Cooperative Service.

The Department considers its assistance to farmers through their cooperatives a means of helping them improve the effectiveness of their own business enterprises. I should like to emphasize that these self-help associations are both owned and controlled by their farmer members, and that benefits from better operations are returned directly to farmers in the form of increased returns for products marketed, lowered costs of essential farm supplies and equipment, and improved services.

Present-day farming conditions both place burdens upon and present opportunities to farmer cooperatives. Cooperatives especially for the use of the small farmer enable him to improve his bargaining power both for the sale of the products he produces and for the acquisition of his tools and materials of production.

More than 3 million farmers now use cooperative organizations for this purpose.

The underlying objective of all farmer cooperatives is to increase the bargaining power of farm producers.

NEEDS OF COOPERATIVES

Marketing cooperatives need help in developing their organizational structure, to increase their bargaining power, to find wider markets, to build reputations for quality products, to reduce handling costs, and to serve as an effective outlet for the products of their farmer members.

Farm supply cooperatives need similar help to strengthen their purchasing power, improve quality of supplies and services, increase variety of supply and equipment items, reduce costs of distributing and handling farm supplies, and provide better extension of credit.

Cooperatives of all types need to improve their management efficiency, reduce costs of transportation, build better membership relations, and strengthen their financial structures.

The Farmer Cooperative Service helps farmers and their cooperatives on such problems working in cooperation with the land-grant colleges and other State agencies. This work is carried on under the Cooperative Marketing Act of 1926 which authorized the Department to provide farmers with research, educational, and advisory service on their cooperative problems. This program has enabled cooperatives to render more effective service for their farmer members.

Operations in 1958 will be continued at the same level as in 1957 and the only increase shown for 1958 is the amount of $28,000 required to meet retirement costs under Public Law 854, applicable to the base for 1958.

Dr. Knapp, the Administrator of Farmer Cooperative Service, and members of his staff are here with me and will give further details regarding the operations of the Service.

Mr. Marshall. It is a pleasure to have you and your group before us, Dr. Knapp.

STATEMENT OF ADMINISTRATOR, FARMER COOPERATIVE SERVICE

Do you have a general statement that you wish to make at this time?

Dr. KNAPP. Yes, Mr. Chairman.

Mr. Chairman and gentlemen of the committee, I welcome this opportunity to report on our work.

Research, advisory service and educational work for farmer cooperatives and their farmer members has been conducted by the Department since 1913. This work has now been carried on for 30 years under the authority of the Cooperative Marketing Act of 1926.

STATUS OF FARMER COOPERATIVES

The following charts which Mr. Walker has will indicate——

Mr. MARSHALL. Are these charts included in the statement?

Dr. KNAPP. They are, yes.

Mr. MARSHALL. Maybe we should place those charts in the record along with your comments.

Mr. HORAN. I think that will make a good presentation.

Dr. KNAPP. Yes, I think so.

(The first chart, fig. 1, is as follows:)

FIGURE 1

Dr. KNAPP. The first of the charts, figure 1, shows the growth in memberships in farmer marketing and supply purchasing cooperatives since 1942–43 by 4-year intervals.

Now, there are, in 1954–55, 7,602,000 memberships. There are less than that number of farmers. However, many farmers belong to more than one association. We estimate that over 3 million farmers, individually, are now served by these associations.

The next chart.

(Fig. 2 is as follows:)

FIGURE 2

Estimated Business of Marketing, Farm Supply and Related Service Cooperatives, 1951-52 to 1954-55*

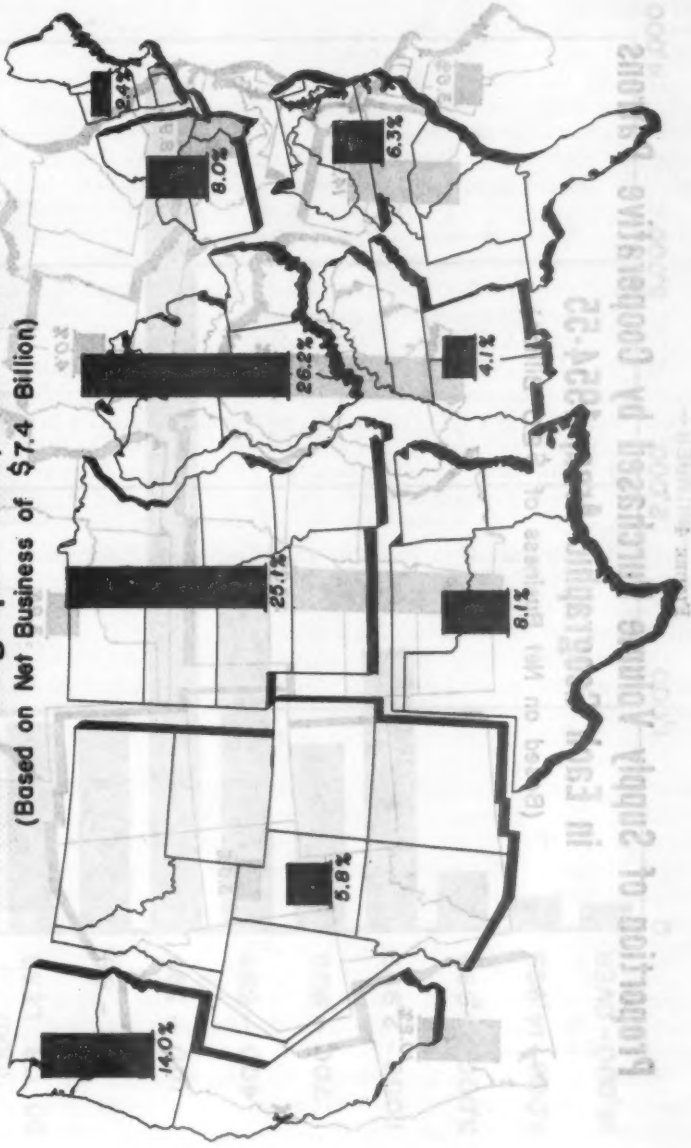
Dr. KNAPP. Figure 2 gives the net business volume of marketing and farm supply and service cooperatives from 1951–52 to 1954–55. And may I say that the 1954–55 figures are our latest figures, which have only been completed about a month. It is of interest that during this period when farm prices were declining, cooperatives as a group more than maintained their volume of business.

(Fig. 3 is as follows:)

FIGURE 3

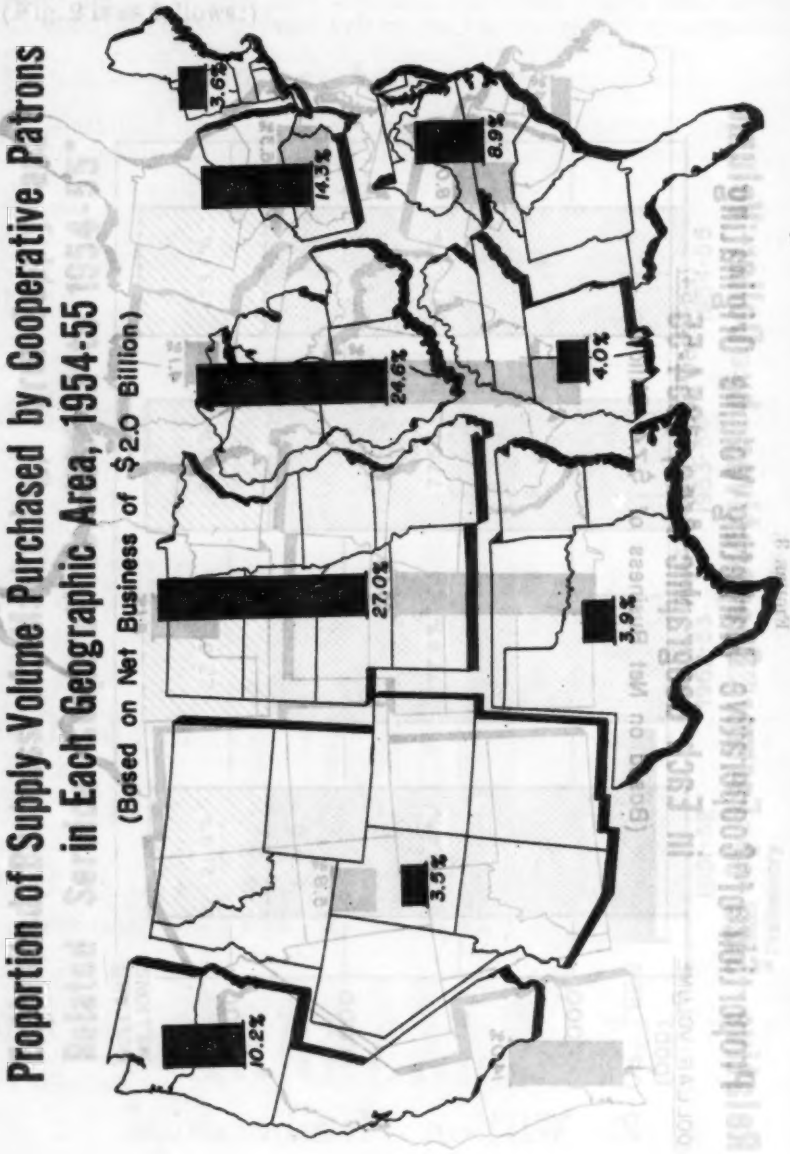
Proportion of Cooperative Marketing Volume Originating in Each Geographic Area, 1954-55

(Based on Net Business of $7.4 Billion)



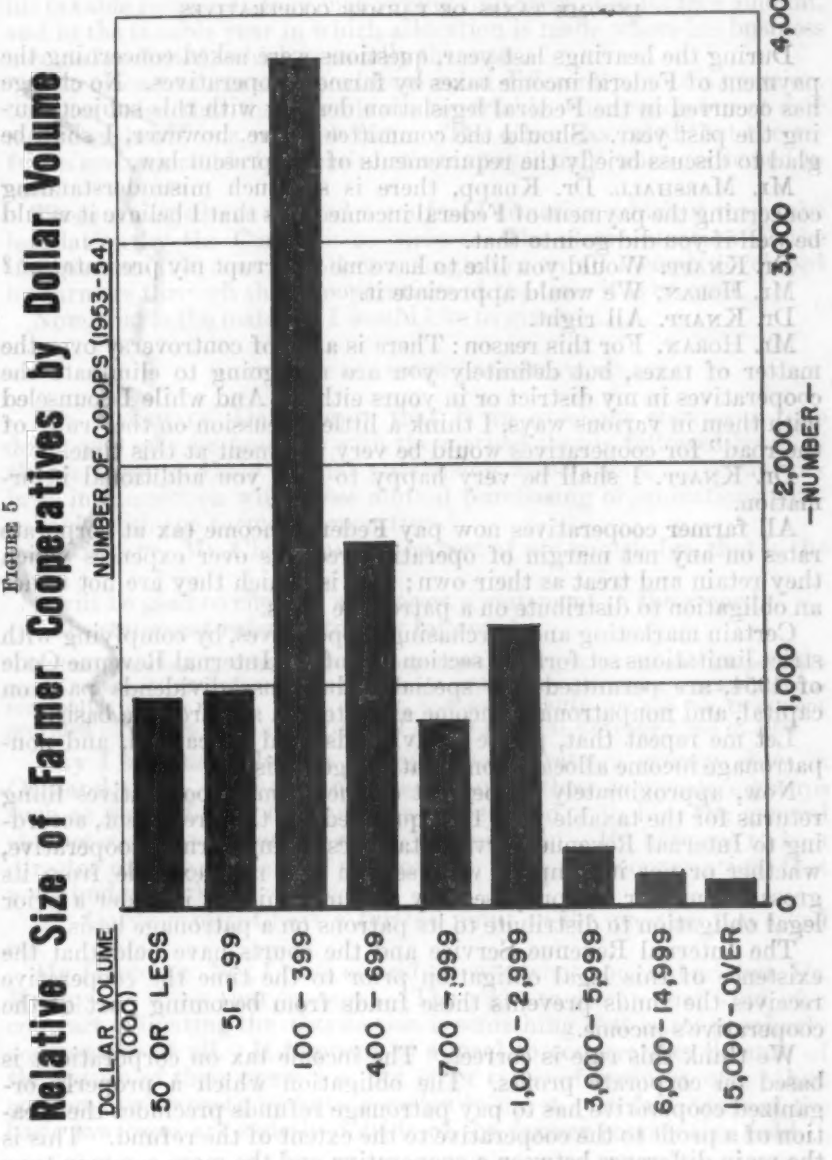
Dr. KNAPP. Figure 3 shows the proportion of total cooperative marketing volume originating in each geographic area for 1954–55. Now, hold that chart and I am also going to give you Figure 4. (Fig. 4 is as follows:)

FIGURE 4



Dr. KNAPP. Figure 4 shows the proportion of total supply volume purchased by cooperative patrons in each geographic area in 1954–55. You will observe that both marketing and supply cooperation is less developed in the South than in the other areas. However, much growth has occurred in this area—that is, in the South—in recent years.

(Fig. 5 is as follows:)



Dr. KNAPP. Now, figure 5 shows the size of farmer cooperatives for the 1953–54 season. This is a different year from the last chart because this information has been obtained in a special study. It is based on dollar volume of business. This chart indicates that farmer cooperatives are mostly small business enterprises.

I might go on and say that the business of 82 percent of the farmer marketing and purchasing associations was less than $1 million in 1953–54. Now, that is the average size of a supermarket enterprise—$1 million.

INCOME TAXES OF FARMER COOPERATIVES

During the hearings last year, questions were asked concerning the payment of Federal income taxes by farmer cooperatives. No change has occurred in the Federal legislation dealing with this subject during the past year. Should the committee desire, however, I shall be glad to discuss briefly the requirements of the present law.

Mr. MARSHALL. Dr. Knapp, there is so much misunderstanding concerning the payment of Federal income taxes that I believe it would be well if you did go into that.

Dr. KNAPP. Would you like to have me interrupt my presentation?

Mr. HORAN. We would appreciate it.

Dr. KNAPP. All right.

Mr. HORAN. For this reason: There is a lot of controversy over the matter of taxes, but definitely you are not going to eliminate the cooperatives in my district or in yours either. And while I counseled with them in various ways, I think a little discussion on the "rules of the road" for cooperatives would be very pertinent at this time.

Dr. KNAPP. I shall be very happy to give you additional information.

All farmer cooperatives now pay Federal income tax at corporate rates on any net margin of operating receipts over expenses which they retain and treat as their own; that is, which they are not under an obligation to distribute on a patronage basis.

Certain marketing and purchasing cooperatives, by complying with strict limitations set forth in section 521 of the Internal Revenue Code of 1954, are permitted two special deductions—dividends paid on capital, and nonpatronage income allocated on a patronage basis.

Let me repeat that, please: Dividends paid on capital, and nonpatronage income allocated on a patronage basis.

Now, approximately 62 percent of the farmer cooperatives filing returns for the taxable year 1953 qualified for this treatment, according to Internal Revenue Service statistics. Any farmer cooperative, whether or not it complies with section 521, may exclude from its gross income for tax purposes any amount which it is under a prior legal obligation to distribute to its patrons on a patronage basis.

The Internal Revenue Service and the courts have held that the existence of this legal obligation prior to the time the cooperative receives the funds prevents these funds from becoming part of the cooperative's income.

We think this rule is correct. The income tax on corporations is based on corporate profits. The obligation which a properly organized cooperative has to pay patronage refunds precludes the creation of a profit to the cooperative to the extent of the refund. This is the main difference between a cooperative and the more common type

of business corporation which usually is not legally bound to refund anything to its customers or to its stockholders.

To the extent that other corporations create a similar prior obligation—and some do—they are allowed precisely the same exclusion in computing their tax.

PATRONAGE REFUNDS

Under Treasury regulations, a farmer receiving a patronage refund from a cooperative, regardless of its form, is required, in computing his taxable income, to take such refund into account at its face amount, and in the taxable year in which allocation is made where his business income is affected, which is usually the case.

Two circuit courts of appeal have ruled differently on this question. One has ruled that the refunds are reportable when made but at fair market value if in a noncash form. The other has ruled that the refunds are reportable by a cash-basis taxpayer only when redeemed in cash.

These rulings have created a confused situation which it may take legislation by the Congress to correct. The clear intention of the Congress in 1951 was to collect a single tax on all income developed by farmers through their cooperatives at the time it is created.

Now, that is the material I would like to give you.

MUTUAL PURCHASING ORGANIZATIONS

Mr. MARSHALL. Dr. Knapp, that is an excellent statement. No doubt you may be familiar with the method that is followed by merchants through their mutual purchasing associations. Are the tax laws in connection with those mutual purchasing organizations comparable with the farmer cooperatives?

Dr. KNAPP. Mr. Chairman, to the best of my knowledge, that is the case.

I will be glad to check it and insert a statement in the record.

(The statement referred to is as follows:)

Mutual purchasing organizations have the same right as farmer cooperative organizations to exclude patronage refunds which they are under a prior mandatory obligation to make. They cannot, however, qualify for the tax treatment provided in section 521 and section 522 of the Internal Revenue Code of 1954.

May I say that I have a brother who operates a grocery store in Oakland, Calif., and he is a member of one of these cooperative groups such as you referred to, and I have discussed with him the general character of the operations of the organization. He happens to be a director of it; and I am of the opinion, from that conversation, that your understanding is correct.

Mr. Gardner might have a further point on the question you asked me.

Mr. GARDNER. No; I have no additions to what you said on that, Dr. Knapp. I think that is sound. The right to set up that kind of a contract obligating the distribution is something that is not peculiarly cooperative at all. It happens to appeal to cooperatives because of the nature of their operation, but other types of business, other than cooperatives, sometimes have occasion to use it. In fact, some of the basic law cases are strictly outside of the farmer cooperative field.

Mr. ANDERSEN. Doctor, I wish to join with Mr. Marshall in thanking you for a very concise and clear statement of what I might term a very touchy subject. And as Mr. Marshall has well stated, at least I believe you inferred it, Mr. Marshall, what difference is there between the number of former patrons of a small cooperative, on the one hand, and the number of merchant patrons of a big buying organization, on the other? Certainly the two groups look quite similar to me. And I am positive that these same merchants do get rebates at the end of the year through these sale organizations for credits which have accrued to them because of their purchases. Is that not a fact?

Dr. KNAPP. That is true, sir.

Mr. ANDERSEN. And so, personally, I think that your line of reasoning is very sound, and I am glad that your organization has taken the position it has.

Dr. KNAPP. Thank you, sir.

Mr. HORAN. Does not your case rest on the fact that a cooperative as such is not in business to make a profit for itself as such, only for its members?

Dr. KNAPP. It serves the interest of the members. Except in a strict legal sense the cooperative is not a separate entity; it is the members operating in an organized way.

Mr. HORAN. Presumably, though, all the activities of the cooperative, within the bounds of safety, are supposed to be returned to the members as individuals?

Dr. KNAPP. Yes. There is no opportunity for a residual amount to lodge anyplace else.

Mr. MARSHALL. Ed Slettom, secretary of the Minnesota Association of Cooperatives, called my attention to an article that was written by you, Dr. Knapp, published by the Harvard Business Review—Are Cooperatives Good Business? I would like to commend you for that article and would also like to express the hope that a copy of that might be presented to each member of this committee.

Mr. HORAN. I would appreciate it.

Dr. KNAPP. Thank you, sir.

Mr. MARSHALL. It seems to me, in commenting a little further, Dr. Knapp, that, regardless of whether this be a small-business man or a farmer, it gives these people a vehicle whereby they can compete in our economic society in a wholesome, legitimate manner.

Dr. KNAPP. Yes, sir.

Mr. MARSHALL. Would you, at this point, care to make a brief comment about that phase of your article?

Dr. KNAPP. Yes; I will be happy to do so.

The farmer is an individual and there are some 5 million of them. They produce various commodities and crops. They are broadly scattered. They must deal with strong business organizations in the marketing of their products and in the acquirement of their farm supplies and services.

In my article I said with reference to your point:

> A cooperative is an organization set up by a group of persons or firms to perform services for themselves. Their object is to secure better services, in terms of quality and cost, than they could otherwise obtain. Their chief instrument for achieving this purpose is group integration, which is a source both of bargaining power and of efficiency.
>
> Cooperatives, in short, aim to provide for other groups in the economy some of the economic benefits enjoyed by large businesses, and they seek to accomplish this aim through economies of scale and organization.

The farmer has been the greatest single beneficiary of the American cooperative, for it has given him a form of economic organization adapted to the peculiar conditions of his industry. Farmers individually have little power in the market place. Organized in cooperatives they can meet power with power. Without such organizations they would have to rest content with whatever service they could get; they would have no choice. Cooperatives have secured for them the benefits of other organized groups while preserving for them their status as individual concerns.

The cooperative has performed a similar service for the individual and the small-business firm. It has given them the advantages of big business—volume economies, access to managerial skills, and sufficient capital for research and development. It has thus helped to perpetuate small enterprise with all its opportunities for individual expression and satisfaction, so valuable in an economy of increasingly large business.

Cooperatives have helped to keep the competitive system competitive. By setting certain standards of business service and performance they have spread the benefits of their operations to those served by their competitors. For example, the value of cooperatives to all farmers in the form of better competitive terms made possible by their presence in the agricultural industries amounts to millions of dollars annually. This statement can be substantiated in many areas by the decline of margins taken for marketing and purchasing services when cooperatives began to provide effective competition.

The article in full will give you my more complete thinking on this subject.

Mr. MARSHALL. We might go back to your statement.

Dr. KNAPP. Yes, sir.

PROBLEMS OF FARMER COOPERATIVES

Some of the current problems of farmer cooperatives have been indicated in the explanatory material, on pages 672 to 675, which have been furnished you and in the remarks of Secretary Peterson.

Many problems of cooperatives are of a recurring nature. For example, cooperatives have the never-ending job of improving their organization and financial structures, their general operating methods, their accounting and business practices, their management and personnel, and their relationships with their members. These problems have been intensified by the many recent technological and scientific advances in farming and industry and by the increasing size and power of firms with which cooperatives must do business.

In general, our work is designed to help farmers by helping their cooperative to do the following things: (1) Improve the farmer's bargaining position, (2) reduce the farmer's bill for production supplies, (3) reduce handling costs, (4) increase processing and storage services, (5) improve transportation methods and facilities, (6) improve product quality, (7) improve pricing techniques for farm products, (8) strengthen directors, managers and other personnel, (9) improve understanding and participation of farmer members, (10) strengthen financial structures and programs, (11) improve business procedures and records, (12) help farmers obtain needed business services, and (13) contribute to the improvement of rural communities.

SERVICES TO COOPERATIVES

I should like to report briefly on how we are using the increase provided in the 1957 appropriation. With these funds, we have initiated work to assist purchasing cooperatives with their problems in credit extension and collection, control of inventory, and improve-

ment of services to members. We have also begun work to assist marketing cooperatives to consolidate or coordinate operations, to improve services for growers in areas near large consuming centers, and to increase their efficiency in handling special crops. An analysis of debt financing and revolving fund operations has been started. The annual statistical survey has been strengthened to reveal important trends in change and growth in farmer cooperatives. The full benefits of this enlargement of our program will become apparent within the next year.

Our work is carried on in three interrelated areas: research, advisory service, and education. The foundation of our work is research. However, the basic object of our research is to help farmers. Our research is of special value because we are in position to help farmers and their cooperatives put our findings into immediate and practical use. When we refer to our advisory service work, we mean the work we do to help a cooperative or a group of cooperatives on a specific problem. This work gives us a followthrough from research findings to their application.

Our educational work is the end product of our research and service activities. Obviously, the need for assistance on specific problems is reduced by effective educational work.

The following tabulation highlights some of our activities during the last fiscal year.

We completed 80 research and advisory studies.

Staff members participated in 165 meetings.

There were 5,737 farmer cooperatives represented at such meetings.

Members of our staff had 125 contacts with land-grant colleges.

They had 681 contacts with farmer cooperatives in the field.

They had 142 in the Washington offices.

They had 46 contacts with district banks for cooperatives.

During the year, we published 37 new and revised publications.

The total number of copies of all publications distributed was 130,000. Over one-half of these were distributed to vocational teachers, county agents and others for educational use.

We also revised our educational movie. The old name was Farmers Working Together; we now call it Farmer Cooperatives Today. We think we have improved it greatly and also brought it up to date. We did this revision for the modest cost of $6,000. That movie is being distributed through the 12 district offices of the Farm Credit Administration.

We also developed three TV programs. One was on new practices in cooperative dairy marketing; one was on bulk milk handling, and one was on bulk feed delivery.

We prepared information for two radio programs. These were distributed through the Department of Agriculture.

RESEARCH WORK WITH FARMER COOPERATIVES

Our research projects are conducted as a rule, at the request and with the cooperation of the cooperative or cooperatives to be studied. In many cases they furnish personnel and transportation to assist in the work. We estimate that about one-third of the expense is borne by the cooperatives directly involved. Our general programs of re-

search could not be carried on without the close working relations we have developed with cooperatives in studying their problems.

Several examples of our research work are given in the explanatory material, pages 672 to 675. I wish here to call attention to work being done on a few projects of timely significance.

Of primary importance is our work on financing problems of cooperatives. Increased complexity of organization and of services rendered require more capital and in different forms. We believe that this project on financing cooperatives is providing basic information essential to sound cooperative development.

Another project in which there is much current interest has to do with the marketing problems and methods of cooperatives handling broilers. Broiler production has increased fortyfold from 34 million birds in 1934 to an estimated 1,355 million in 1956. Financing of broiler production by feed companies, hatcheries, processors, and others has resulted in a lack of coordination between production and marketing. This has caused periodic market gluts and losses to producers, and in several important broiler areas producers have undertaken to solve their marketing problems cooperatively. Some associations have made an outstanding success; others have encountered serious difficulties. Our study is revealing effective methods of coordinating production, processing, and marketing that will benefit not only broiler cooperatives and their members but also others in the industry.

PROBLEMS OF WOOL COOPERATIVES

Wool cooperatives have asked for our assistance in solving several pressing problems. Prices of domestic wools are frequently below world levels, largely because of greater care in the growing and preparation of foreign wools for market. Our study is yielding results which will be of value not only to wool producers and their cooperatives but also to manufacturers and other handlers of wool.

Mr. ANDERSEN. Mr. Chairman, I would like to interrupt at this point, if I may?

Mr. MARSHALL. Yes, sir.

TELEGRAM OF GENERAL MANAGER, MINNESOTA WOOL GROWERS' ASSOCIATION

Mr. ANDERSEN. I would like to, at this point, Mr. Chairman, have inserted in the record a telegram from Mr. Carl J. Nadasdy, who is general manager of the Minnesota Wool Growers Association.

Mr. MARSHALL. Without objection, it will be inserted at this point.

(The telegram referred to is as follows:)

MINNEAPOLIS, MINN., *February 1, 1957.*

H. CARL ANDERSEN,
House Office Building, Washington, D. C.:

We understand Dr. Joseph Knapp will appear before House Appropriations Committee on Monday in behalf of Farmers Cooperative Service. We appreciate work this Department has done in research projects on wool marketing, which is very vital to Minnesota sheep industry. The woolgrowers of Minnesota would be grateful if you could question Dr. Knapp and ascertain whether funds being requested in new budget contemplates further wool marketing research on an expanded basis, which we need so direly.

Kindest regards,

CARL J. NADASDY,
General Manager, Minnesota Wool Growers Association.

Mr. ANDERSEN. That association, Dr. Knapp, appreciates very much the work that your Department has done in research projects on wool marketing. They feel it very vital to the sheep industry, which we do have in Minnesota. And of course that would apply also to the other parts of the Nation.

As the wire states, the woolgrowers would be very much interested in ascertaining whether funds being requested in the new budget contemplates further wool marketing research on an expanded basis, which they feel is very direly needed.

Now, could you give me some information on that, please? What is contemplated in this budget as to further expanded research relative to these problems?

Dr. KNAPP. The situation is that we have been working very closely with the cooperative wool organizations. And this last year we have initiated a new project in which we will examine all of the factors that can affect the efficiency of the national wool organization and its affiliated organizations, the solution of the problems that are basic to its success.

In making plans for that work, we had conferences with the association officials. We laid down a program of research that would involve various stages, and we agreed that we would first find out what the demand for wool is from the manufacturers and domestic users of the product.

We have carried out the first phase of that project. Our representative has interviewed the wool manufacturers. He has had excellent cooperation. And the preliminary report on that first phase of our work is now completed.

Now, we have one man who is a wool specialist—Mr. Hodde—devoting his full time to this wool problem.

We also have in the Livestock and Wool Branch Mr. Randell, the Chief of that Branch, and he devotes some time to wool problems.

We also draw on other parts of our organization on special kinds of problems that relate to wool marketing. For example, in the management area, in the financing area, in the transportation area, we go to the Management Services Division. And so we have more than the one man in the Livestock and Wool Branch working on the subject.

Now, we plan this next year to carry on this program that we have been working on and to expand it within the budget provisions that we have set forth here.

Mr. ANDERSEN. Doctor, you do consider it quite a problem, do you not?

Dr. KNAPP. Sir?

Mr. ANDERSEN. You do consider the problem relative to wool is quite serious; is it not?

Dr. KNAPP. We consider it a major national problem; yes, sir.

Mr. ANDERSEN. And will you please, for our further information, insert in the record at this point a more comprehensive answer to my question?

Dr. KNAPP. I would be happy to have the opportunity to do so, sir.

Mr. ANDERSEN. Thank you. It need not be too long, but whatever you feel worthwhile for the record.

Dr. KNAPP. Thank you, sir.

Mr. MARSHALL. Thank you.

(The statement referred to is as follows:)

In my testimony I have made clear that we are deeply interested in the problems of wool growers and their cooperatives. In addressing the annual meeting of the stockholders and directors of the National Wool Marketing Corp., held in Salt Lake City on November 8, 1956, I said:

"The future of the wool industry in the United States will no doubt largely depend upon the efficiency of wood marketing. Wool producers are not going to produce without an assured and profitable market."

In my talk I described at some length our active and proposed research work designed to improve cooperative wool marketing. I concluded by saying. "In the next few years I am confident that we can give you material assistance on your problems through the careful analysis of them and through helping you devise ways and means of meeting them."

Now that we have obtained information on the requirements of wool manufacturers we plan to study how the wool cooperatives can best meet these requirements. This will involve an analysis of sales and handling methods of the wool cooperatives, and the preparation of wool for marketing. In developing our plans for this project we have worked closely with the officials of the National Wool Marketing Corp. and its member associations.

Mr. James H. Lemmon, president of the National Wool Marketing Corp., in a letter to me dated January 19, 1957, expresses himself as follows relative to the importance of our work on the wool-marketing problem:

"Since my return home yesterday have been reviewing the material that your Department is developing for the clinic which is being held in Chicago on February 7, 8, and 9, in which not only the National Wool Marketing Corp., but all its State associations are participating and in which the plans are being developed by your Department.

"This review which I have been making leads me to realize more than ever what an important part you are taking in conducting research toward the end of improving the marketing methods for wool, which will later, no doubt, be followed by investigation into methods of preparing wool to capture a larger proportion of our domestic market.

"This is work that I don't feel our organization could successfully carry on without your help and I now am positive that by our working with you we can improve our marketing and preparation service so that the net gain to the wool producers as a whole—not only members of our organization—will be materially increased. It, of course, will be a long-time program and we can't expect immediate results, but I surely hope that it will be possible for you to continue to help and guide us."

In response to Mr. Anderson's specific question, and the question of Mr. Nadasy, we plan an expansion of our research work relative to wool marketing within the budget estimate for 1958.

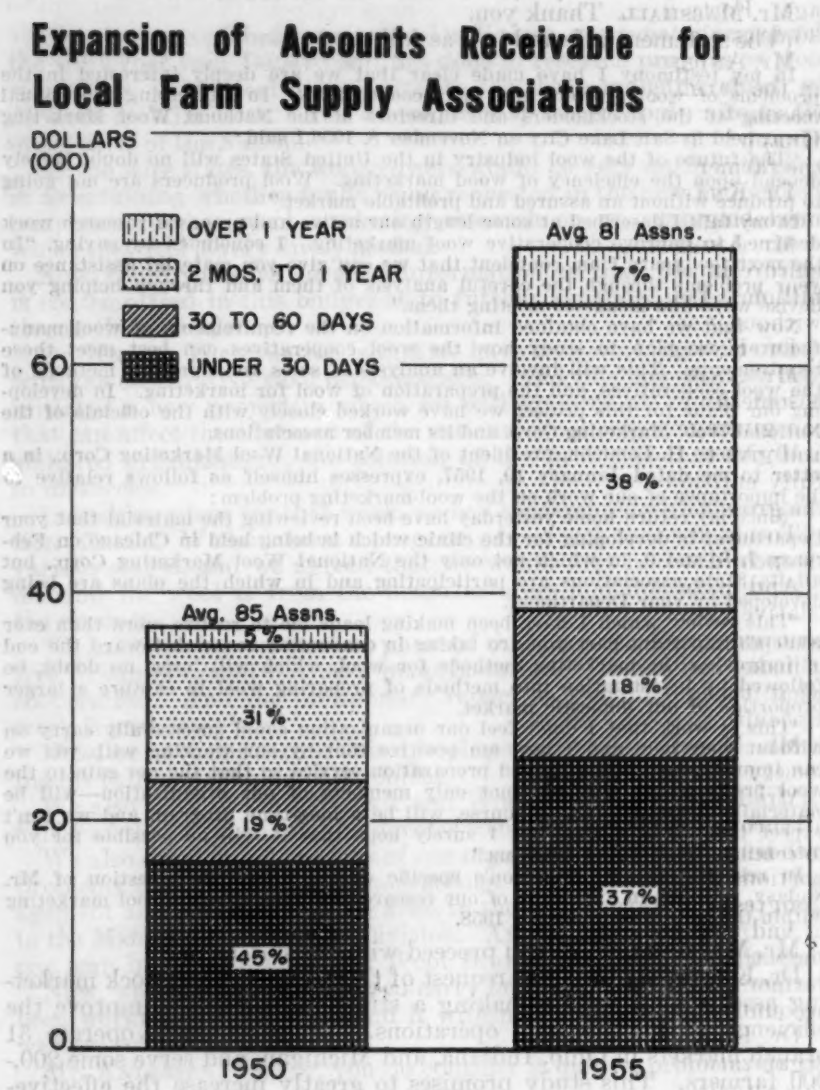
Mr. MARSHALL. Will you proceed with the statement?

Dr. KNAPP. At the joint request of three regional livestock marketing associations, we are making a study to help them improve the efficiency of their branch operations. These regionals operate 31 branch markets in Ohio, Indiana, and Michigan, and serve some 200,000 farmers. This study promises to greatly increase the effectiveness of these associations.

CREDIT EXTENDED BY FARM SUPPLY COOPERATIVES

Poor control of credit has lowered the operating efficiency of many farm-supply cooperatives and thereby reduced savings to farmers. The chart which I have here indicates how this problem has grown in recent years.

(The chart referred to is as follows:)



The chart shows the average expansion of accounts receivable according to age for a group of cooperatives in a central State, from 1950 to 1955.

I wish to give you just a little more information. You will notice that average accounts receivable for these associations grew from $37,000 in 1950 to $70,000 in 1955. At the same time, average supply sales grew from $614,000 to $690,000. There was not the same growth in supply sales as in receivables.

Thus, accounts receivable as percentage of sales grew from 6 to over 10 percent.

At the same time, you will notice, the accounts receivable grew in age. Forty-five percent of the accounts receivable in 1950 were under 30 days old, while only 37 percent were under 30 days old in 1955.

Mr. ANDERSEN. Is that not proof of the fact that there is less money in the farming area today by far than in 1950; is that not the basic reason for that increase of 89 percent in accounts receivable, Dr. Knapp? In other words, times are getting just a little tougher for the farmer?

Dr. KNAPP. I think the situation indicates that the farmer has had increasing difficulties with finances.

Mr. ANDERSEN. Well, they must have when the net income for agriculture in 1950 has dropped from $16.8 billion down to about $10½ billion. You cannot take $6 billion net out of any group's pockets without it showing up somewhere along the economy; can you?

Dr. KNAPP. That is right.

Mr. ANDERSEN. And, to me, your chart which you have presented is something to which we should take heed along the line of how we can give agriculture a little bit better break in this economy of ours and give to them a little more of the portion to which they are rightfully entitled and which should rightfully accrue to the farmers of the gross national product.

To me, it is shameful that agriculture today has to be a sort of a "stepchild' to our otherwise booming economy.

And in committee this morning, Mr. Chairman, in Agriculture Legislative Committee, when I heard them talking about 70 and 75 percent price supports on our big, one crop through the Midwest—corn—it makes me wonder if the average person in America really realizes what it means to our whole economy to have a fair price beneath our agricultural commodities.

Mr. MARSHALL. Particularly when such a large segment of our society is benefiting from that production.

Mr. ANDERSEN. Absolutely. And when you think of all the jobs all through the line of our economy, gentlemen, that simply do not come into being because of the fact that our farmers do not have a sufficient portion of our national prosperity, I think that is a thing that the Congress should look very carefully into.

And your chart certainly emphasizes that fact, Doctor, because you show there that even the cooperatives, which supply the average local farmers with their supplies, are finding it difficult to collect their accounts. That is about what your chart shows, is it not, sir?

Dr. KNAPP. Yes, it shows that. And it also points out that these organizations must take every precaution to see that they do not allow this situation to get any worse through their own dereliction.

Mr. ANDERSEN. Certainly. And you are offering them the very best advice you are able to give.

Dr. KNAPP. We are endeavoring to help them preserve their organizations.

Mr. HORAN. May I ask a question there, Mr. Chairman?

Mr. MARSHALL. Surely.

Mr. HORAN. In the average cooperative, they do the marketing for the farmer and they collect the proceeds from the sale of his goods, and then they pay it to the farmer. What are the factors that account for delinquencies over 1 year?

Dr. KNAPP. I am sorry, Mr. Horan, I do not quite get the precise question right there.

Mr. HORAN. Well, I am assuming that the cooperative, if it does the marketing for the member of the cooperative, also collects the returns for the sale of any commodity and then pays it back to the farmer. Now, within the space of 1 crop year I can understand that an account might become deficient up to 1 year. But I just wonder what the factors are that account for the growth of the delinquent accounts receivable greater than 1 year?

Dr. KNAPP. Well, the supply operations are generally carried out as separate business transactions, apart from marketing. That is, these particular organizations—and that is true of most of the supply associations, the way they are set up throughout the country. That is not true in some areas where marketing and purchasing are carried on through the same organization, and out in your territory this situation often exists.

But in the case of these organizations, they have no marketing business or marketing accounts through which they can collect their accounts. They are doing business with the farmer in the same way that an ordinary chainstore would be doing business with a local customer.

Mr. HORAN. Then I suppose the way that would be is that the delinquencies occur in purchasing cooperatives, rather than marketing cooperatives?

Dr. KNAPP. Yes; this is a study of that phase.

Mr. MARSHALL. Dr. Knapp, I was interested in what you are doing, what suggestions are you making about this particular phase of the cooperative work?

Dr. KNAPP. May I call on Dr. Abrahamsen under whom this study is being carried on?

Mr. MARSHALL. Certainly.

Dr. ABRAHAMSEN. We have primarily three suggestions with regard to ways by which these associations can improve their accounts receivable situation. The first is that it is quite evident from our study that boards of directors need to establish firm and definite credit policies and then follow through to maintain the necessary controls on such credit policies.

Secondly, we suggest that in many instances it is possible for the associations to shift the credit problem to established credit agencies.

And in the third place, we suggest that they charge for the credit service when it is given.

Another finding of this study is that it costs about 2 cents on the dollar to carry on a credit business. And to operate on an equitable basis, such costs should be paid by those who use that service.

Mr. MARSHALL. Is it my understanding that this phase of your work is also available to private industry if they wanted to avail themselves of it?

Dr. ABRAHAMSEN. When we have formal publications, they, of course, will be available to cooperative groups and other groups that are serving farmers.

Dr. KNAPP. Thank you.

ADVISORY WORK WITH FARMER COOPERATIVES

Dr. KNAPP. Now I would like to give you a typical illustration of our advisory work with farmer cooperatives.

In late July of 1956 we received requests from three dairy cooperatives in Coos County, Oreg., for a study to help them determine whether they should consolidate their operations and if so, how they might do it. This request was supported by the county agent and the extension marketing specialist of Oregon State College.

Within a few weeks a member of our staff, working in cooperation with the county agent and the Oregon State College, analyzed this problem. His report was made to the interested organizations in early October. Our capacity to give immediate help on this problem was due to our ability to draw on our fund of research findings and experience.

Since this work was done, other developments have broadened the scope of the original inquiry and necessitated further work in the field by our representative. He returned the day before yesterday and gave me a report since this was made.

Largely as a result of this joint advisory work, these dairy cooperatives are developing a workable program to efficiently market their milk.

EDUCATIONAL WORK WITH FARMER COOPERATIVES

I believe you will be interested in a recent example of our educational work. At the request of several fruit and vegetable bargaining associations, we arranged a conference in Chicago, January 12 and 13, of this year, to consider mutual problems of such associations. This conference, the first of its kind, was attended by about 50 directors and managers representing 22 associations with some 13,000 members. Representatives of 5 land-grant colleges, the National Council of Farmer Cooperatives, and the American Farm Bureau Federation also participated.

COOPERATIVE WORK WITH OTHER AGENCIES

Now I would like to tell you of some of our cooperative work with other agencies.

First, with the Agricultural Marketing Service. Farmer Cooperative Service has participated in the marketing research studies authorized under the Research and Marketing Act of 1946 with funds advanced by Agricultural Marketing Service. We were included in this program from its inception because of our long experience in cooperative marketing research and because of our well-established and widespread contacts with cooperatives. On many projects we work on the phase of the study that relates to cooperative organizations, while AMS collects and analyzes data from other firms.

REGIONAL LABORATORIES

Since 1948, Farmer Cooperative Service has been cooperating with the Northern and Southern Utilization Research Branches of the Agricultural Research Service at Peoria and New Orleans, in holding working conferences with directors and managers of cooperative soybean and cottonseed oil mills. The object of these annual conferences is to bring technical experience from the laboratories to the cooperatives and practical operating problems from the cooperatives to the laboratories. FCS, during this period, has made a continuing analysis of comparative costs, utilization of labor, power consumption and costs, product outturns, product prices, and returns to patrons. The banks for cooperatives financing these mills have always participated in these conferences. The next is scheduled for Fresno in March.

BANKS FOR COOPERATIVES

Our contacts with the central and district banks for cooperatives continue to be close. We jointly work on many problems of mutual interest.

FEDERAL EXTENSION SERVICE

We have also improved our collaboration with the Federal Extension Service on problems related to farmer cooperatives. By means of joint staff conferences, every 3 months we acquaint the Extension Service with results of our research and service work, and the Extension Service brings to us problems upon which they would like assistance.

LAND-GRANT COLLEGES AND OTHER STATE AGENCIES

In recent years we have greatly strengthened our working relations with the land-grant colleges and other State agencies. In collaboration with the American Institute of Cooperation, we have sponsored a national and three regional conferences on research in agricultural cooperation. The last conference of this type was held in October at College Station, Tex., for land-grant college workers in the Southwestern States. We have several requests for similar conferences in other regions and we are planning to hold our next one at Kansas State College in May.

Our records for fiscal 1956 show that during the year we cooperated with State agencies in all 48 States and with Puerto Rico. The majority of these contacts were with research and extension workers in the land-grant colleges. However, in 23 States we also worked with State departments of markets, or similar State agencies.

This completes my statement. I will be happy to answer any questions.

Mr. MARSHALL. Dr. Knapp, we thank you for your statement.

COOPERATIVE MEMBERSHIP

I notice that in the chart that you presented to this committee you mentioned the membership in cooperatives. Could you tell this committee how much growth, if any, there has been in cooperative organizations?

Dr. KNAPP. In recent years?

Mr. MARSHALL. Over a comparable period.

Dr. KNAPP. Well, I would like to give you that information, if I may, for the last 4 years and go back further, if you would like.

Mr. MARSHALL. That would be sufficient.

Dr. KNAPP. All right. Our records indicate that in 1951–52 there were 7,363,129 memberships.

Mr. MARSHALL. I was asking about the organizations themselves.

Dr. KNAPP. Oh, the organizations themselves. I will be glad to give you that.

The number of organizations in 1951–52 was 10,166; in 1952–53 it was 10,114; in 1953–54 it was 10,058; and in 1954–55 it was 9,887. Taking the first year, 1951–52 as a base of 100, the number in 1954–55 represented 97.3 percent. So you see there was a decrease there of 279 associations.

Now, on the other hand—do you wish to go a little further?

Mr. MARSHALL. Yes.

Dr. KNAPP. I gave you the membership figure. And you take the change in memberships for that same period, and, using the first year as a base of 100, there was an increase to 103 percent; so there was an increase of memberships of 3 percent and a decrease in organizations of about 3 percent.

The volume of business during that period held up quite well. On the basis of the first year as a base, it is 102 in 1954–55, or an increase of 2 percent.

MERGER OF COOPERATIVES

Mr. MARSHALL. Have cooperatives merged to any great extent to follow the trend of larger organizations?

Dr. KNAPP. There has been a great deal of interest and a great deal of work along that line. It has been mostly in the case of a few small associations getting together, such as the case that I referred to here. And the decrease in numbers of associations is largely due to the consolidation of existing organizations to make stronger organizations.

PROJECTS COMPLETED

Mr. MARSHALL. On page 237 of the justification you indicate that you have completed work on 80 projects during 1956. Would you describe some of these and give evidence of the results you might have along that line?

Dr. KNAPP. Yes. I believe it might be an easier thing, though, if I were to turn that over to the respective division directors under whom the work was carried on, if I may. I might ask Mr. Samuels on marketing and Mr. Gardner on management services. Would you respond to that now, Mr. Samuels?

Mr. MARSHALL. We believe it would be a good idea to put the list in the record first, and then proceed. Do you have the list?

Dr. KNAPP. No; I do not have the list.

Mr. MARSHALL. All right; then that may be submitted for the record.

(The material referred to is as follows:)

LIST OF STUDIES COMPLETED BY FARMER COOPERATIVE SERVICE—FISCAL YEAR 1956

Research

(These studies represent work accomplished under research projects.)

MARKETING DIVISION

1. Comparative analysis of 1955–56 operating costs of cooperative cottonseed oil mills.
2. Comparative analysis of 1955–56 operating costs of cooperative soybean-oil mills.
3. Methods of improving sales programs of fluid-milk cooperatives.
4. Costs and factors affecting packing and processing of citrus fruits by cooperatives and others.
5. Organization, financing, operations, and physical facilities of a livestock marketing association.

PURCHASING DIVISION

6. Comparative analysis for 1954–55 of organization, operations, and services of major regional farm supply cooperatives.
7. Costs and operating methods of frozen food locker cooperatives in a central State.
8. Role of frozen food locker plants in a national emergency.
9. Group insurance plan for employees of cooperatives.

MANAGEMENT SERVICES DIVISION

10. Farmers' equities for marketing and farm supply cooperatives.
11. Annual statistical survey of farmers' marketing, farm supply, and related service cooperatives.
12. Appraisal of the programs of State cooperative councils.
13. Participation of farmwomen in agricultural cooperation.
14. Membership relations study for regional dairy cooperative.
15. Supplementary report on agricultural cooperatives in Western Europe.

Advisory and educational

(These studies represent work accomplished under advisory service and educational projects.)

MARKETING DIVISION

16. Quarterly analysis of operating expenses of cooperative soybean oil mills.
17. Operations of a federated soybean oil mill in a central State.
18. Capital structure and organization of a cooperative cotton gin.
19. Accounting training for bookkeepers and managers of cooperative grain elevators and cooperative gins.
20. Review of proposed Federal milk-marketing order in relation to farmer cooperatives in a North Central State.
21. Problems of a farmer cooperative in acquiring a milk distributing plant.
22. Operating problems and opportunities of a milk producers association.
23. Financing, operations, and physical facility problems of a cooperative dairy association.
24. Potential for bulk milk procurement by a dairy cooperative.
25. Possibilities for merging two milk distributing cooperatives.
26. Evaluation of a proposed new milk distributing cooperative.
27. Membership relations problems of a milk producers cooperative.
28. Internal organization of a berry cooperative.
29. Organization structure of a potato cooperative.
30. Management and marketing problems of a tropical fruitgrowers cooperative.
31. Organization, management, and operations of a potatogrowers cooperative.
32. Problems of a new fruit and vegetable cooperative.
33. Marketing practices of fruit and vegetable growers association.
34. Operations of a fruitgrowers cooperative.
35. Plan for modernizing a cooperative grain facility.
36. Problems of proposed new cooperative grain elevator in a southeastern State.

37. Organization of a new State livestock association for feeder calf sales.
38. Analysis of a proposed new livestock cooperative in the Virgin Islands.
39. Feasibility of establishing a new cooperative livestock market in a southern State.
40. Reducing cooperative handling costs on small wool clips.
41. Organization and operations of a turkey marketing cooperative in a Pacific coast State.
42. Organization and operations of a sales federation of egg and poultry producers cooperative in a central State.
43. Operations of poultry producers cooperative in an eastern State.
44. Analysis of a plan for federating six egg bargaining cooperatives.
45. Evaluation of the operations, physical facility, and organization of a turkey marketing cooperative in a northeastern State.
46. Analysis of the management and operations of a dry-bean cooperative.
47. A pooling plan for a regional bean association.
48. Bean cooperative problems in price-support program.
49. Opportunities for organizing a new honey producers cooperative in a western State.
50. Possibility of organizing a new dry-bean cooperative in a Pacific coast State.

PURCHASING DIVISION

51. Management training assistance for farmer mutual insurance companies.
52. Effectiveness of membership communication in a regional supply cooperative.
53. Operating efficiency of a southern regional farm supply cooperative.
54. An educational fertilizer sales program for a farm supply cooperative.
55. Operations and services of a local supply cooperative in a Southeastern State.
56. Analysis of trends in sales, receivables, and inventory of regional farm supply cooperative.
57. Analysis of operating methods of a frozen food locker cooperative in a Central State.
58. Review of operating problems of a frozen food locker cooperative in an Eastern State.
59. Improving merchandising programs of a frozen food locker cooperative in a Central State.
60. Reducing labor costs and increasing sales of frozen food locker cooperative.
61. Operating and merchandising problems of a frozen food locker cooperative.
62. Coordination of branch sales and services for a frozen food locker cooperative.

MANAGEMENT SERVICES DIVISION

63. Statistical data on farmer cooperatives requested by various State colleges and other groups.
64. Information on cooperative mergers on request of a land-grant college.
65. Development of statistical material on dairy cooperatives for a land-grant college.
66. Statistical material on farmer cooperatives for a land-grant college, Central State.
67. Statistical material on farmer cooperatives for a land-grant college, Eastern State.
68. Compilation of statistical data on farmer cooperatives for a land-grant college, Southeastern State.
69. Compilation of statistical tables on cooperative marketing for a regional research conference.
70. Location of a grain terminal storage facility in a Southeastern State.
71. Establishment of a traffic department and other transportation savings for a berry cooperative in a Pacific Coast State.
72. Use of master containers in shipping citrus fruit in Southeastern States.
73. Establishment of transit privileges on wool in a Central State.
74. Possibilities of effecting transportation savings through consolidation of feed manufacturing and distributing activities in two Central States.
75. Location of a wool-storage warehouse in a Northeastern State from a transportation viewpoint.
76. Possibilities of saving transportation costs through movement of grain by barge on the upper Missouri River.
77. Development of educational material and programs to facilitate teaching of agricultural cooperation.

78. Training leaders in cooperative membership programs.
79. Training programs in agricultural cooperation for foreign trainees.
80. Cooperative feed traffic survey in a North Central State.

(The studies above listed do not include general marketing studies made with funds advanced by Agricultural Marketing Service.)

Dr. KNAPP. And I would like to say in some cases the list of jobs accomplished does not necessarily mean they were full projects. They may be a report on a project that was a significant piece of work.

Mr. SAMUELS. Well, I believe, Dr. Knapp, that potato study in Maine is a good example of one that we completed this last year.

Dr. KNAPP. Yes, that would be good.

Mr. SAMUELS. During the year we completed the study of the Oregon Turkey Marketing Cooperative to improve its operations and to study ways of improving its financial setup and membership relations. We completed a study of a potato marketing cooperative in Maine in which we made suggestions on how it could strengthen its marketing setup. We completed a phase of a study of citrus packinghouse costs which we conducted in cooperation with the University of Florida.

APPRECIATION OF COOPERATIVE MANAGEMENT

Mr. MARSHALL. In connection with the work that you have completed, have you had any expression from the directors or managers of the cooperatives concerning that phase of your work?

Dr. KNAPP. I have here a file of appreciatory things of that kind, and I will be very glad to submit some of them to you or put them in the record—letters of appreciation for accomplishments.

Mr. MARSHALL. We wonder if you might not just identify some of those you heard from and give a brief comment as to what they said. I don't think we should put it all in the record.

Dr. KNAPP. I will give you one here on livestock, for example. Well, here is one from the Michigan Livestock Exchange, thanking us for a few publications. He says, "I wish to thank you for the excellent job." Here is one from Mississippi, from the manager of the Mississippi Livestock Producers Association, addressed to Mr. Randell. He tells of the various changes that have been made in the organization following up the work that Mr. Randell did with them.

He says, "After our preliminary drawings are completed, we plan to mail you a copy for your suggestions and criticisms."

We have been in a continuous advisory relationship, working with the extension people and others, on that project.

And then he says, "We appreciate your cooperation in helping us develop new facilities and new livestock market cooperatives in Mississippi."

Here is one from the Glades Livestock people in Florida, where we completed a study, and the manager has asked for copies of the report. I can give you more of that.

Mr. MARSHALL. When he asked for the report, did he make any comment about the service you had rendered to him?

Dr. KNAPP. Yes.

Mr. MARSHALL. I believe that is what we are interested in.

Dr. KNAPP. Let me read this letter addressed to me by the manager of the Glades Livestock Market Association, Belle Glade, Fla.:

I have been requested by the directors of the association to convey their appreciation for the valuable work which your Department did in the preparing of FCS Bulletin 13, Glades Livestock Marketing Association.

This circular is valuable to us in many ways, but to the directors and management of the association it is particularly valuable as a basis for planning for additional growth, both in facilities and service.

For the benefit of others anticipating the formation of a livestock marketing association, we believe that this study is a valuable supplement to such work as Bulletin 65, Decentralized Marketing by Producers Livestock Cooperative Association of Columbus, Ohio, and other publications released by your Department which have been of untold value to us. We especially want to express our appreciation for the valuable assistance to us of Mr. C. G. Randell in developing better cooperative practices.

Now, I can give you other letters of that type.

Mr. MARSHALL. You might at this point supply for the record 3 or 4 additional such letters.

(The material is as follows:)

The board of directors of Oregon Turkey Growers, after review and consideration of a report and recommendations resulting from a study by Farmer Cooperative Service, adopted this resolution:

"That the report of the Farmer Cooperative Service of the United States Department of Agriculture be accepted and that said Farmer Cooperative Service be commended for the thoroughness and comprehensiveness of the report, the perspective it gives of the industry in Oregon, and the appraisal of the part the Oregon Turkey Growers Association has and can play in fulfilling its proper function as a turkey processing and marketing cooperative. Further, that a copy of this resolution be directed to Joseph G. Knapp, Administrator, Farmer Cooperative Service, United States Department of Agriculture, Washington, D. C., and that said Joseph G. Knapp be requested to have prepared from the report a summary of the statistical information and background material in a form that can be distributed to the members of the Oregon Turkey Growers Association, nonmember producers, and others allied with the turkey industry in Oregon." (August 10, 1955.)

The manager of the Northwestern Ohio Poultry Association wrote as follows regarding a study by our Service of problems of a cooperative sales federation, of which the association is a member:

"As one of the committee members of federated working with you on the request for the survey that you presented last Friday, I want to express my sincere appreciation to you for a most complete report. It isn't until after such a report is given that one realizes just how much time was taken in gathering up data and working it in the final presentation." (March 6, 1956.)

The following extracts are from a letter from the Illinois Agricultural Association regarding assistance rendered by Farmer Cooperative Service to frozen food locker cooperatives in Illinois:

"The services rendered in the field of frozen food locker plants by Messrs. L. B. Mann and Paul C. Wilkins in 1956 and prior years has certainly been very valuable to our frozen food locker cooperatives here in Illinois. The assistance and counsel given in problems of management, cost efficiency, and research by your locker section has been very valuable to our organizations in Illinois, as well as to others over the entire country and we sincerely appreciate this valuable service. We feel that Messrs. L. B. Mann and P. C. Wilkins, and B. D. Miner deserve special commendation for the excellent job they did on FCS Circular 17 and the national survey through which they obtained the information for this circular. We especially appreciate the manner and style in which the information is presented in this circular." (December 31, 1956.)

Following presentation of a report of a study made by our Service of internal operating policies and organization of this farm supply association, the Arkansas Farmers Association wrote:

"I cannot compliment too highly the thoroughness and the frankness and the helpfulness of Mr. Mather and your department in this study and report. Our board and our entire organization are deeply grateful to you for this fine work

and are looking forward to putting a lot of your recommendations into practice to streamline our operations to do a better job in these challenging days ahead." (August 23, 1956.)

Mr. MARSHALL. Do you have anything further?

Dr. KNAPP. May I have one word, Mr. Chairman. I referred to our educational work, and I used as an illustration the fruit and vegetable bargaining cooperatives conference which we took the lead in planning. Subsequent to that, we have had many letters come in, and this resolution was passed, thanking us, by those who were at the meeting. I would be pleased to also include this with the other material.

(The material is as follows:)

RESOLUTION OF APPRECIATION MADE AT THE CONFERENCE ON FRUIT AND VEGETABLE BARGAINING COOPERATIVES ON JANUARY 13, 1957

Be it resolved, That the participants in this conference of fruit and vegetable bargaining cooperatives express their appreciation to the Secretary of Agriculture, Ezra Taft Benson, for the assistance given by Joseph G. Knapp, Administrator of the Farmer Cooperative Service, and members of his staff, in arranging and conducting this conference.

Mr. MARSHALL. You have an item in the budget of an increase of $28,000 having to do with retirement costs. The other phases of your work are to be continued at the same level as this fiscal year?

Dr. KNAPP. Yes, sir.

FINANCIAL MANAGEMENT STUDIES

Mr. MARSHALL. Mr. Natcher, do you have any questions?

Mr. NATCHER. Dr. Knapp, assuming that the books of one of the cooperatives are under the control of an expert embezzler, what protection, if any, can this cooperative expect from the Farmer Cooperative Service?

Dr. KNAPP. If the books are in the hands of an embezzler—none, in this sense. We have no authority to go in and check up or to call for books or anything of that kind. However, if the directors of that organization feel that the association's operations are not going as they should, and if they request us to come and make a study of the organization, it may be possible to determine defalcations. And, of course, one of the things that we would recommend immediately would be that there be an audit. In many cases we are able, through educational ways, research ways, to help in such situations, but only in that way.

Mr. NATCHER. You have no authority under the present law to make any inspections over the year that might detect this condition.

Dr. KNAPP. That is correct. We have no such authority. And I also think that it is good this is the case, because I believe if we were in that relationship, we would be looked upon as detectives—whereas our relationships must be on the basis of being friendly advisers and helpers. Our relationship is similar to that of the county agent and the extension people.

Mr. NATCHER. You feel that the present system is the best and it should remain under the control of the State organization; is that correct?

Dr. KNAPP. Well, the States charter the organizations and in some cases they do call for records. It depends upon the practices in the various States.

Mr. MARSHALL. I believe in our State, Dr. Knapp, the cooperatives would be subject to the control of a State enforcement agency in matters such as embezzlement. So, it would become a State enforcement proposition from that standpoint. Even though that cooperative may do business in some other State, if its offices are located there, the security provisions of the State provide for some protection for the patrons of that cooperative. Is that not right?

Dr. KNAPP. Yes; I think that is the case.

Mr. NATCHER. Is that generally the condition throughout the other States, Dr. Knapp?

Dr. KNAPP. No, not to the same extent.

Mr. PETERSON. Mr. Chairman, on this point, if I may, I do not know the situation generally in all cooperative organizations over the entire country. In the area with which I am familiar, the cooperatives follow the same principles of good prudent business management that any other business concern follows; namely, that if they have people handling funds, where there is opportunity to abscond with the funds, they require bonding provisions in their employment arrangements with such people. The cooperatives with which I have been associated in years past had independent public accountants go through the books at periodic intervals and give audit reports to the board of directors. So the same general opportunities for prudent management are available to the cooperative organizations as are available to any other business type of organization.

Mr. NATCHER. Mr. Peterson, ordinarily is it not true, though, that the employees are under small bonds? Isn't that generally the condition throughout the cooperatives in the United States?

Mr. PETERSON. I suppose that varies, Mr. Natcher. Again, referring to the cooperatives that are in my home State, where I had some familiarity with what conditions were, the amount of the bond was related to the amount of cash and other negotiable instruments that an auditor or bookkeeper or whoever had charge of that type of activity might be handling at any given time.

Mr. MARSHALL. Thank you, Mr. Secretary, Dr. Knapp, and your group, we appreciate your coming before us.

Mr. PETERSON. Thank you, Mr. Chairman and gentlemen.

COMMODITY EXCHANGE AUTHORITY

WITNESSES

EARL L. BUTZ, ASSISTANT SECRETARY OF AGRICULTURE
RODGER R. KAUFFMAN, ADMINISTRATOR, COMMODITY EXCHANGE AUTHORITY
DOUGLAS B. BAGNELL, DEPUTY ADMINISTRATOR, COMMODITY EXCHANGE AUTHORITY
DANIEL A. CURRIE, ASSISTANT TO THE ADMINISTRATOR, COMMODITY EXCHANGE AUTHORITY
CHARLES L. GRANT, DEPUTY DIRECTOR OF FINANCE, DEPARTMENT OF AGRICULTURE

SALARIES AND EXPENSES

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Licensing	$51,567	$49,500	$52,300
2. Supervision of futures trading	441,434	424,500	448,100
3. Audits	163,256	169,400	179,300
4. Investigations	117,730	144,000	152,300
Total obligations	773,987	787,400	832,000
Financing:			
Unobligated balance no longer available	1,013		
Appropriation	775,000	787,400	832,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	139	140	140
	Average number of all employees	125	129	129
	Number of employees at end of year	126	128	128
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,348	$5,362	$5,378
	Average grade	GS-6.8	GS-6.9	GS-6.9
01	Personal services:			
	Permanent positions	$684,754	$709,700	$706,900
	Regular pay above 52-week base	2,492		2,800
	Payment above basic rates	611	500	500
	Total personal services	687,857	710,200	710,200
02	Travel	16,508	12,200	12,200
03	Transportation of things	386	1,000	1,000
04	Communication services	18,284	19,600	19,600
05	Rents and utility services	15,285	15,400	15,400
06	Printing and reproduction	17,103	13,700	13,700
07	Other contractual services	6,162	6,200	6,200
	Services performed by other agencies	1,615	950	950
08	Supplies and materials	5,280	5,350	5,350
09	Equipment	4,458	2,150	2,150
11	Grants, subsidies, and contributions: Contribution to retirement fund			44,600
13	Refunds, awards, and indemnities	720	550	550
15	Taxes and assessments	329	100	100
	Total obligations	773,987	787,400	832,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$775,000	$787,400	$832,000
Obligated balance brought forward	49,415	37,969	38,369
Total budget authorizations available	824,415	825,369	870,369
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	736,018	750,000	793,000
Out of prior authorizations	49,286	37,000	37,000
Total expenditures	785,304	787,000	830,000
Balance no longer available:			
Unobligated (expiring for obligation)	1,013		
Other	129		
Obligated balance carried forward	37,969	38,369	40,369
Total expenditures and balances	824,415	825,369	870,369

Mr. MARSHALL. The committee will be in order. We are pleased to have before us Mr. Butz, the Assistant Secretary of Agriculture; Mr. Kauffman, the Administrator of the Commodity Exchange Authority; Mr. Bagnell, Deputy Administrator of the Commodity Exchange Authority; Mr. Currie, Assistant to the Administrator, Commodity Exchange Authority; and Charles L. Grant, Deputy Director of Finance, Department of Agriculture.

At this point we will place in the record pages 168 through 176 of the justification.

(The pages referred to are as follows:)

COMMODITY EXCHANGE AUTHORITY

PURPOSE STATEMENT

The Commodity Exchange Authority administers the Commodity Exchange Act of September 21, 1922, as amended.

The major objectives of the act are: To prevent commodity price manipulation and cornering the market; prevent dissemination of false and misleading crop and market information affecting commodity prices; protect hedgers and other users of the commodity futures markets against cheating, fraud, and manipulative practices; insure the benefits of membership privileges on contract markets to cooperative associations of producers; insure trust-fund treatment of margin moneys and equities of hedgers and other traders and prevent the misuse of such funds by brokers; and provide information to the public regarding trading operations and contract markets.

The basic act was designated as the Grain Futures Act and conferred limited authority with respect to futures trading in grains only. By amendment of June 15, 1936, its short-title designation was changed to "Commodity Exchange Act," and its regulatory provisions strengthened and extended to cotton, millfeeds, butter, eggs, potatoes, and rice. By amendment of April 7, 1938, wool tops were added to the commodities subject to the act; fats and oils, cottonseed, cottonseed meal, peanuts, soybeans, and soybean meal were added by the act of October 9, 1940; wool was added by enactment of Public Law 690 of August 28, 1954; and onions were added by enactment of Public Law 174 of July 26, 1955.

These functions carried out under the act are performed through a central organization in Washington and five field offices, located in the commodity markets at Chicago, Kansas City, Minneapolis, New Orleans, and New York. On November 30, 1956, the Commodity Exchange Authority had 129 employees, 40 of whom were stationed in Washington, D. C., and 89 in the field offices.

Appropriated funds

Appropriated, 1957	$787,400
Budget estimate, 1958	832,000

Salaries and expenses

Appropriation Act, 1957, and base for 1958	787,400
Budget estimate, 1958	832,000
Increase (for contribution to the retirement fund pursuant to Public Law 854)	+44,600

Project statement

Project	1956	1957 (estimated)	Increase, retirement costs (Public Law 854)	1958 (estimated)
1. Licensing	$51,567	$49,500	+$2,800	$52,300
2. Supervision of futures trading	441,434	424,500	+23,600	448,100
3. Audits	163,256	169,400	+9,900	179,300
4. Investigations	117,730	144,000	+8,300	152,300
Unobligated balance	1,013			
Total retirement costs (Public Law 854)			[+44,600]	[44,600]
Total appropriation or estimate	775,000	787,400	+44,600	832,000

STATUS OF PROGRAM

Objective and functions.—Enforcement of the Commodity Exchange Act requires supervision over 17 commodity exchanges designated as contract markets. Enforcement is a continuous process involving the following functions:

1. *Market designation and broker registration.*—(*a*) Designation of commodity exchanges as contract markets; (*b*) annual registration of futures commission merchants and floor brokers; and (*c*) continuing review of exchange rules and regulations.

2. *Supervision of futures trading.*—(*a*) Compilation, audit, tabulation, and review of trade reports and current market analyses; (*b*) establishment, enforcement, and review of speculative limits; (*c*) review of market news and letters; (*d*) maintenance of a quotation and ticker service; (*e*) analysis of cash commodity transactions; (*f*) cooperative activities with control committees of contract markets; (*g*) observance of floor trading; and (*h*) compilation and publication of market information.

3. *Prevention of misuse of customers' funds.*—(*a*) Audit and examination of records of futures commission merchants; and (*b*) analysis of brokers' financial statements.

4. *Investigation and control of trade practices.*—(*a*) Investigation of complaints and alleged and apparent violations; (*b*) trade practices audits and surveys; (*c*) investigation of delivery practices; and (*d*) preparation and presentation of evidence of violations in administrative hearings and judicial proceedings.

Recent developments

Supervision of futures trading during the year ended June 30, 1956, involved 23 commodities, compared with 20 in the previous year. The increased number of commodities reflected the beginning of supervision of futures trading in onions, and resumption during the year of futures trading in barley and middlings, in which trading was inactive during the previous year.

Regulation of futures trading in onions became effective September 24, 1955, following an amendment to the Commodity Exchange Act, approved July 26, 1955. The Chicago Mercantile Exchange and the New York Mercantile Exchange were designated as contract markets for onions, effective September 24, 1955. The enforcement program was further activated by amending the regulations under the act, including provision for required reports by brokers and large traders in onion futures, and audits of books and records of futures commission merchants pertaining to onion futures accounts. The first marketwide onion survey was made as of September 30, 1955. It provided information on the positions of all traders in onion futures on the Chicago Mercantile Exchange and the New York Mercantile Exchange. The basic data thus obtained will serve as a benchmark for subsequent regulatory work in the onion market.

During the year basic information on the development, extent, and character of onion futures trading was brought together and compiled by the CEA to

implement the regulation of trading in onions and for presentation as evidence in hearings before the Commodity Exchange Commission on the establishment of speculative limits for that commodity. Much of this basic data was assembled in a 60-page handbook which was presented in hearings before the Commission on April 10, 1956, made available to producer and trade groups, and in hearings in May 1956 before the Special Subcommittee on Futures Trading in Perishable Commodities of the House Agriculture Committee. In July 1956, the Commodity Exchange Commission established speculative limits on onions, effective September 1, 1956.

During the past fiscal year encouraging results were accomplished by conferences with governing boards of contract markets looking toward cooperative action in preventing undesirable trade practices. Meetings were held during the year with the responsible officials of four of the commodity exchanges on which instances of noncompetitive execution of orders and other potentially abusive practices had been observed. The reaction of the exchanges to this approach was highly favorable and indicated appreciation of being given opportunity to correct conditions which might otherwise lead to formal administrative proceedings. Results attained by maintenance of close contact with the exchanges justify emphasis on this phase of the CEA program in the continuing effort toward maximum results per dollar spent.

Selected examples of recent progress

Market regulations reviewed; floor brokers registered at all-time high.—During the fiscal year 1956 the Commodity Exchange Authority supervised futures trading on the commodity exchanges designated as contract markets under the Commodity Exchange Act. The 17 commodity exchanges, currently designated as contract markets, and the 23 commodities in which futures trading was conducted are listed below:

Market	*Regulated commodity*
Chicago Board of Trade	Wheat, corn, oats, rye, soybeans, lard, cotton, cottonseed oil, soybean oil, grain sorghums, soybean meal.
Chicago Mercantile Exchange	Butter, eggs, potatoes, onions.
Chicago Open Board of Trade	Wheat, corn, oats, rye, soybeans.
Duluth Board of Trade	(No trading in 1955–56.)
Kansas City Board of Trade	Wheat, corn, bran, shorts, middlings, grain sorghums.
Memphis Board of Trade Clearing Association.	Cottonseed meal, soybean meal, soybeans.
Milwaukee Grain Exchange	Wheat, corn, oats, rye.
Minneapolis Grain Exchange	Wheat, oats, rye, barley, soybeans, flaxseed.
New Orleans Cotton Exchange	Cotton.
New York Cotton Exchange	Do.
New York Mercantile Exchange	Potatoes, onions.
New York Produce Exchange	Cottonseed oil, soybean oil.
Portland Grain Exchange	(No trading in 1955–56.)
St. Louis Merchants' Exchange	Do.
San Francisco Grain Exchange	Do.
Seattle Grain Exchange	Wheat.
Wool Associates of the New York Cotton Exchange.	Wool, wool tops.

There were 595 futures commission merchants registered, compared with 620 during the previous year. The number of floor brokers registered was 889, which was greater than in any previous year. As of June 30, 1956, registered futures commission merchants maintained 1,932 principal and branch offices, and had agents in 289 other offices handling orders for the purchase or sale of commodities for future delivery. The comparable figures a year earlier were 1,886 offices maintained by registrants and 291 agents' offices.

Futures trading data

Futures transactions increase.—Trading in regulated commodities, as measured by the number of transactions (purchases plus sales in terms of contract units), showed an increase of 8.9 percent during the year. Total transactions were estimated at 9,130,000 in 1956, compared with 8,385,000 in 1955, and with an average of 7,684,000 for the 10-year period, 1946 through 1955.

Value of trading.—The value of futures trading in regulated commodities was estimated at $40,093,600,000 in the 1956 fiscal year, an increase of 3.2 percent over the estimated value of $38,837,200,000 for 1955.

Volume of trading greater in grains and fats and oils; smaller in cotton.—Activity in the grain futures markets, and in fat and oil futures, increased in 1956, and was at record levels in soybeans, soybean oil, soybean meal, and eggs. Futures trading in cotton, wool, and wool tops declined.

Futures trading in all grains on all markets amounted to 13.8 billion bushels, compared with 12.7 billions in 1955, an increase of 8.2 percent. Activity in soybeans totaled 5,541,841,000 bushels, which was a larger volume than in any previous fiscal year. Wheat futures trading on all markets amounted to approximately 4.2 billion bushels, or 5.3 percent above the previous year. Trading in corn totaled 2.8 billion bushels, up 24.8 percent.

Cotton futures trading declined to the lowest level in 10 years. The volume on all markets amounted to 39,594,000 bales in 1956, compared with 50,395,000 bales in 1955.

Trading in soybean oil, amounting to approximately 8.2 billion pounds, compared with 4.3 billion in 1955, was the largest on record. Cottonseed-oil trading exceeded 3.4 billion pounds, more than 4 times the 1955 total.

Trading in egg futures set a new all-time record for the third consecutive year, 425,900 carlots being traded in 1956, compared with 258,507 carlots in 1955. Futures trading in potatoes and onions declined from the record levels reached in 1955.

Volume of futures trading on all contract markets combined, by commodities, fiscal years ended June 30, 1955, and June 30, 1956

Commodity	Unit	1955	1956	Percent of increase or decrease
Wheat	1,000 bushels	3,969,072	4,180,556	+5.3
Corn	do	2,213,472	2,762,007	+24.8
Oats	do	757,619	687,325	−9.3
Rye	do	815,407	574,098	−29.6
Barley	do	0	25	
Flaxseed	do	7,361	11,108	+50.9
Soybeans	do	4,952,249	5,541,841	+11.9
Grain sorghums	Million pounds	103	19	−81.6
Cotton	1,000 bales	50,395	39,594	−21.4
Wool	1,000 pounds	98,652	54,834	−44.4
Wool tops	do	119,655	86,220	−27.9
Butter	Carlot	97	73	−24.7
Eggs	do	258,507	425,900	+64.8
Potatoes	do	197,186	126,339	−35.9
Onions	do	164,207	126,795	−22.8
Cottonseed oil	1,000 pounds	825,180	3,451,860	+318.3
Soybean oil	do	4,318,500	8,185,200	+89.5
Lard	do	2,027,320	1,974,720	−2.6
Bran	Ton	102,600	32,970	−67.9
Shorts	do	97,560	15,990	−83.6
Middlings	do		10,570	
Cottonseed meal	do	217,400	246,600	+13.4
Soybean meal	do	5,741,300	6,663,000	+16.1

Larger number of broker and trader reports received.—An estimated 588,845 daily and weekly reports of commodity brokers and large traders were received, processed, and analyzed during the year. This represented an increase of 6 percent, compared with the 555,776 reports received in 1955. Reports in 1956 from brokers relating to daily volume of trading and open contracts numbered 272,234, and reports relating to the transactions and positions of individual large traders, 316,611.

Increased number of delivery notices.—In 1956 the number of copies of delivery notices submitted by exchange clearing members was 34,358, compared with 27,735 in 1955, an increase of 23.9 percent.

Enforcement of speculative limits.—Careful surveillance of broker and trader reports and other checks were maintained during the year in the enforcement of speculative limits established by the Commodity Exchange Commission applicable to large traders in grains, soybeans, cotton, and eggs. Surveillance disclosed 36 instances in which traders exceeded speculative limits, compared with 17 instances in 1955. During 1956 there was 1 instance of exceeding the speculative

position limit in wheat, 1 in soybeans, and 3 in rye. In eggs there were 31 instances of exceeding speculative limits, of which 15 involved position limits, and 16 the daily trading limit. In all instances, the deviations were handled by administrative action.

Special position surveys in onion and potato markets.—A special survey of the positions of all traders in the Chicago and New York onion futures markets was made as of September 30, 1955, and another such survey of the Chicago market as of May 31, 1956. Special surveys were also made of the positions of all traders in potatoes on the New York Mercantile Exchange as of October 31, 1955, and June 29, 1956. Published reports on these surveys have been issued or are in process.

Publications prepared.—A significant publication during the year was the 200-page report entitled "Futures Trading in Potatoes, 1954–55," covering extensive investigation and analysis of potato futures trading on the New York Mercantile Exchange. The publication presents basic information and statistical data on the general character of the potato futures market and provides factual background material for regulatory work in this commodity.

Other publications prepared during the year included:

Potato Futures, a Survey of Open Contracts on the New York Mercantile Exchange, October 31, 1955.

Onion Futures, a Survey of Open Contracts on the Chicago Mercantile Exchange, September 30, 1955.

Commodity Futures Statistics, July 1954–June 1955.

Recent Developments in Futures Trading Under the Commodity Exchange Act. Agricultural Information Bulletin No. 155.

Periodical statistical reports, the publication of which was continued during the year, included:

Daily reports issued by Commodity Exchange Authority field offices on volume of trading and open contracts in regulated commodities on principal markets.

Weekly report on sales of cotton "on call."

Monthly statistical reports: Trade in Grain Futures, Trade in Cotton Futures, Commitments of Large Traders in Cotton Futures.

Audits of commission merchants' accounts.—During the year 635 audits of futures commission merchants were made. These audits covered the accounts of 27,889 customers who had to their credit $100,261,797.55 in funds required to be segregated from the funds of the futures commission merchants. The average number of accounts per audit was 43.9. The average amount to the credit of each customer was $3,595.03. In addition to the 635 audits of customers' funds, 3 special audits were made involving a determination of correct reporting procedure and other problems.

In the course of the 635 audits, 327 deviations from the law or regulations were discovered. In most cases corrective measures were taken when the deviations were brought to the attention of the brokerage houses. The remainder are under further investigation. In addition to the 327 deviations of registrants, 3 organizations were found to be acting as futures commission merchants without having been registered. During the year 596 futures commission merchants' financial statements were analyzed.

Compliance investigations data.—A substantial increase in the number of investigations made marked the past fiscal year. Administrative complaints issued during the year totaled 4, 3 of which charged manipulation of futures prices.

Manipulation of onion and wheat markets.—Apparent manipulation of the November 1955 onion future on the Chicago Mercantie Exchange caused a very extensive investigation which extended to all futures through March 1956. Investigation resulted in issuance of a complaint against two individuals and one corporation alleging manipulation of the price of onion futures and cash onions.

Complaints of market manipulation in wheat futures in Kansas City incident to the purchase of CCC wheat, led to an investigation which resulted in issuance of a complaint charging a large grain firm with manipulation of Kansas City wheat futures on two occasions in 1955.

Administrative complaint proceedings finally concluded during the year totaled six and resulted in the denial of respondents' trading privileges for varying periods.

The small backlog of 11 cases remaining at the year end is in line with recent years and is particularly gratifying in view of the larger number of investigations made this year, and the added burden of onion trading supervision which began during the year.

Major activities of the Commodity Exchange Authority

	Actual		Estimated	
	1955	1956	1957	1958
I. Licensing:				
Futures commission merchants registered	620	595	610	610
Floor brokers registered	883	889	910	910
II. Supervision:				
Markets and commodities:				
Exchanges	17	17	17	17
Commodities	20	23	24	24
Markets (6 wheat markets, 3 cotton markets, etc.)	43	48	49	49
Reports tabulated and analyzed:				
Daily trading volume and open contracts	257,211	272,234	275,000	275,000
Daily and weekly reports on large traders	298,565	316,611	320,000	320,000
Delivery notices	27,735	34,358	30,000	30,000
Special calls and surveys	3	4	7	4
Accounts covered	4,472	2,271	6,000	5,000
General activities, including observance of trading, contact with exchange officials, establishment, review and enforcement of speculative limits, quotations service, price compilations, and review of market letters	(1)	(1)	(1)	(1)
III. Audits:				
Audits of customers' segregated funds	577	635	700	700
Accounts examined	31,281	27,889	34,000	34,000
Financial statements	617	596	610	610
IV. Investigations:				
Compliance investigations completed	30	44	45	50
Trade practice surveys completed	4	5	5	6
Number of transactions examined	2,638	62,602	50,000	60,000
Criminal prosecutions	0	0	1	2
Administrative proceedings	7	4	4	4

(1) No measure of workload available.

Mr. MARSHALL. The request is for an increase of $44,600.

Do you have a statement you wish to make, Mr. Kauffman?

GENERAL STATEMENT

Mr. KAUFFMAN. I have a few remarks, Mr. Chairman.

Mr. Chairman and members of the committee, I am glad to have this opportunity to give the committee an account of the work of the Commodity Exchange Authority, which administers the Commodity Exchange Act.

Regulation of futures trading began 35 years ago, when the Grain Futures Act of 1922 was enacted, conferring limited authority to regulate futures trading in grains only. Amendments in 1936 renamed this legislation the Commodity Exchange Act, strengthened its provisions, and extended regulation to cotton, millfeeds, butter, eggs, potatoes, and rice. Amendments since then, the latest in 1954 and 1955, have added other commodities until the present act covers all the leading futures markets for domestically produced agricultural commodities.

MAJOR OBJECTIVES OF COMMODITY EXCHANGE ACT

Major objectives of the act are the prevention of practices affecting commodity prices, such as manipulation, corners, and the dissemination of false or misleading market information. Enforcement of the act also protects hedgers and other users of the commodity futures markets against cheating, fraud, and deceit; assures the benefits of membership privileges on contract markets to cooperative associations of producers; and provides trust-fund treatment of margin

moneys and equities of hedgers and others using the commodity futures markets.

"HEDGING" IN FUTURES MARKETS

Futures trading provides the marketing tool known as hedging—the balancing of price risks in inventories and requirements by offsetting futures positions. Sales of futures are made for the purpose of offsetting or reducing price risks on stocks of commodities, while purchasers of futures serve to diminish price risks on forward commitments to deliver commodities. Hedging is regularly used by merchants, processors, and farmers' cooperatives in the marketing and distribution of farm commodities, and their products and by-products.

SPECULATIVE TRADING

Speculative trading provides the market volume and liquidity necessary to facilitate hedging and focuses at one point the many factors and forces which affect commodity values. The composite opinion of traders is reflected in the continuing flow of price quotations which are widely disseminated among those concerned with the production and handling of commodities. By means of active speculative trading, price risks are shifted from those engaged in the marketing and processing of commodities to speculative traders willing to assume such risks. While in the vast majority of instances the driving force of speculation is absorbed in competitive buying and selling, in some instances large operators may be tempted to seek an advantage by irregular or manipulative practices. Price quotations which are not the result of fair and competitive trading may give a distorted or artificial picture of the value of the commodity which may be reflected to the entire trade, including farmers, merchants, and processors. Obviously, the maintenance of fair and honest practices and open competition in futures trading is essential for the maintenance of serviceable hedging facilities and the proper registration of prices.

VOLUME OF TRADING

Trading supervision covers 23 commodities in which contract markets are currently conducting futures trading. Total transactions in the 1956 fiscal year were estimated at 9,130,000 purchases and sales in terms of contract units, compared with 8,385,000 such transactions in fiscal 1955, representing an increase of 8.9 percent. The value of trading in regulated commodities was estimated at $40.1 billion in the 1956 fiscal year compared with $38.8 billion in fiscal 1955, or an increase of 3.2 percent.

REPORTING SYSTEM

Effective enforcement of the act includes the continuous maintenance of the CEA's reporting system. Under this system brokers and large traders are required to furnish daily information on futures operations, thus providing basic data for market analysis and appraisal. In the operation of the broker-and-large-trader reporting system in the 1956 fiscal year, the CEA received, audited, and analyzed

589,000 reports, a 6-percent increase over the 1955 fiscal year. The trading supervision program also includes the enforcement of speculative limits and the making of recurrent marketwide surveys of all traders' positions in sensitive commodities. In the onion futures market, alone, the agency has made five marketwide surveys of all accounts in onion futures since September 24, 1955, when regulation of futures trading in this commodity became effective. Reports on four of these surveys have already been published, and in addition a general report on the development and composition of the onion futures market.

ANNUAL REGISTRATION OF BROKERS

Regulation of commodity brokerage activities includes the annual registration of all floor brokers and futures commission merchants engaged in brokerage operations involving futures transactions on contract markets. There were 595 futures commission merchants registered in 1956. The number of floor brokers registered was 889 which was greater than in any previous year. Another vital phase of brokerage regulation is that of perodically auditing the books and records of futures commission merchants to determine whether the funds of their customers are being handled and accounted for as required by law. Six hundred and thirty-five such audits were made in fiscal 1956 as compared with 577 in the preceding fiscal year, and in the current fiscal year the number of audits is running ahead of the corresponding period last year.

INVESTIGATION OF VIOLATIONS

The investigation of questionable market practices and trading operations, and the presentation of evidence to support legal proceedings to suppress violations, are of major importance in our regulatory work. Investigations of actual or alleged violations of the act which were completed in the 1956 fiscal year numbered 49, as compared with 34 in the preceding year. Although many of the investigations do not result in evidence of unlawful practices, some result in the issuance of formal complaints looking toward the denial of trading privileges, the suspension or revocation of brokers' licenses, or the institution of criminal proceedings.

ADMINISTRATIVE PROCEEDINGS

Proceedings to suppress price manipulation and other unlawful practices heavily engaged the agency in the 1956 fiscal year, and a full schedule of such proceedings has continued in the current fiscal year. Five administrative proceedings are at present in progress. Cases during the current year involve formal complaints under the act alleging price manipulation in the wheat, egg, and onion futures markets, charges of cheating and defrauding customers in lard futures through improper execution of orders and registration of false prices, and charges that a commodity exchange is imposing illegal requirements upon a federally licensed grain elevator and thereby preventing the delivery, in satisfaction of futures contracts, of warehouse receipts issued under the United States Warehouse Act.

1958 BUDGET REQUEST

The 1958 budget estimate for enforcement of the Commodity Exchange Act is $832,000, an increase of $44,600 above 1957. The increase of $44,600 requested for 1958 is for the purpose of meeting the retirement costs under Public Law 854. The 1958 estimate will enable the Commodity Exchange Authority to continue its enforcement program on its present level. The work of the agency is so programed that emphasis may be shifted from one market or commodity to another as changing market situations may require. The agency's continuous surveillance of trading and methods of investigation enable it to center attention on unusual speculative activities or indications of unlawful practices.

TREND OF WORKLOAD

Mr. MARSHALL. Mr. Kauffman, what has been the workload trend for the last few years? You had 49 investigations this year, and that compares with 34 the preceding year. Could you give us some indication for prior years?

Mr. KAUFFMAN. The information I have before me on number of investigations relates to 1955 and 1956.

Mr. MARSHALL. Would you place in the record the workload trend for the last 5 years.

Mr. KAUFFMAN. I shall be glad to place that in the record.

(The material referred to is as follows:)

Major activities of the Commodity Exchange Authority, fiscal years 1952–56

	Actual				
	1952	1953	1954	1955	1956
I. Licensing:					
Futures commission merchants registered	623	658	623	620	595
Floor brokers registered	827	866	851	883	889
II. Supervision:					
Markets and commodities:					
Exchanges	18	18	17	17	17
Commodities	20	19	19	20	23
Markets (6 wheat markets, 3 cotton markets, etc.)	44	42	41	43	48
Reports tabulated and analyzed:					
Daily trading volume and open contracts	306,142	267,461	248,436	257,211	272,234
Daily and weekly reports on large traders	322,939	293,764	286,971	298,565	316,611
Delivery notices	30,269	43,524	29,170	27,735	34,358
Special calls and surveys	0	8	3	3	4
Accounts covered	0	24,800	5,393	4,472	2,271
General activities, including observance of trading, contact with exchange officials, establishment, review and enforcement of speculative limits, quotations service, price compilations, and review of market letters	(1)	(1)	(1)	(1)	(1)
III. Audits:					
Audits of customers' segregated funds	594	605	726	577	635
Accounts examined	28,884	31,573	33,231	31,281	27,889
Financial statements	616	658	628	617	596
IV. Investigations:					
Compliance investigations completed	21	48	46	30	44
Trade practice surveys completed	1	0	2	4	5
Number of transactions examined	18,342	0	3,370	2,638	62,602
Criminal prosecutions	2	0	1	0	0
Administrative proceedings	1	4	4	7	4

[1] No measure of workload available.

CASES REQUIRING COURT ACTION

Mr. MARSHALL. You also say that you made 49 investigations. How many of these 49 are of such nature that they necessitated going to court?

Mr. KAUFFMAN. I am going to refer that question to Mr. Bagnell, the Deputy Administrator.

Mr. BAGNELL. We have at this time five formal administrative proceedings that originated through these investigations. Those are in various stages. Hearings have been commenced on some—possible criminal prosecution may be recommended in the case of others. But we have five that are actually sufficiently substantive to warrant formal action. On that, I might say that it has necessarily been on something of a selective basis. Had we all the time in the world, there might have been some additional to those five. But we selected those five that appeared to be the hottest.

Incidentally, those this year have involved rather vigorously defended actions. We sometimes get consent orders in these cases. But most of them this year have been fought, resulting in long administrative hearings, and the trend seems to be in that direction.

Mr. MARSHALL. How many pending court cases did you have carrying over from the preceding year's operation?

Mr. BAGNELL. We had three carried over, if I remember correctly.

Mr. MARSHALL. What was the disposition of the three carried over?

Mr. BAGNELL. One of those is still in process before the United States Court of Appeals, and the other is still before the judicial officer for final determination. We have a total of 74 cases, I believe we brought, since the Commodity Exchange Act was amended in 1936. We have lost two in circuit court on appeal. We have had five dismissed because of various causes, the respondents dying or something like that. But all the rest have resulted in imposition of effective sanctions.

Mr. KAUFFMAN. The figures you have given the chairman include the administrative proceedings. Mr. Marshall's inquiry, I believe,, was directed to cases that get into the courts as distinguished from the administrative proceedings.

Mr. MARSHALL. That is right.

Mr. BAGNELL. Oh, only those that have been appealed to the courts.

Mr. MARSHALL. That was the question.

Mr. BAGNELL. I will have to do a little research on that.

ADMINISTRATIVE CASES

Mr. KAUFFMAN. Most of our cases do not get into the courts. They are begun by the issuance of an administrative complaint by the Secretary of Agriculture; hearings are held by a hearing examiner of the Department. The judicial officer of the Department, acting on behalf of the Secretary, issues his decision and order. Many times we are able to obtain the respondent's consent to the waiver of hearings and the imposition of sanctions. Of course, those cases do not get to court. So that only a small proportion of our administrative cases are appealed to the court of appeals. One was appealed within the past 2 weeks. But they are exceptions. Most of our cases do not get to the appellate court.

COTTON FUTURES MARKETS

Mr. MARSHALL. What control do you have over the cotton futures?

Mr. KAUFFMAN. We designate the commodity exchanges which conduct trading in cotton futures as contract markets. They are licensed. Their members must keep their books and records open to our inspection. Floor brokers who execute orders for the public on the trading floor are licensed by the Commodity Exchange Authority annually, as are brokerage firms who accept orders from the public for the purchase or sale of cotton for future delivery. The act provides that cotton deliverable on futures contracts must conform to official United States standards. Warehouses are open to inspection, as are their records. And I might say that in general all provisions of the Commodity Exchange Act are applicable to futures trading in cotton.

MANIPULATION OF COTTON FUTURES MARKET

Mr. MARSHALL. Have you observed in the past year any manipulations of the cotton futures market?

Mr. KAUFFMAN. We have not, I would say, Mr. Chairman—nothing that in our opinion would constitute manipulation within the meaning of the Commodity Exchange Act.

Mr. MARSHALL. Have you investigated many complaints concerning that item?

Mr. KAUFFMAN. We have had very few complaints concerning cotton futures. Those we have received have been investigated.

MARGIN REQUIRED ON EGG FUTURES

Mr. MARSHALL. In a discussion before this committee a year ago, it was pointed out that, in the handling of egg futures, the margin was so narrow that it had some influence on the futures market. Has that margin requirement been increased during the past year?

Mr. KAUFFMAN. I do not believe it has been increased during the past year. I have the exact figure here, Mr. Chairman. The minimum margin required on speculative transactions is $500 per contract. I will be glad to insert a statement as to whether or not that represents an increase. It is now 11.4 percent of the value of the commodity.

Mr. BAGNELL. It has been the same.

Mr. KAUFFMAN. I do not recall that it has been increased.

Mr. BAGNELL. One of the proceedings that we mentioned was brought this year in eggs, involving manipulation in the egg market. And this case I mentioned as now being before the circuit court of appeals also involved manipulation of eggs. That is a rather old case. The one now before us is January 1956, charging manipulation at that time.

DISPOSITION OF COURT CASES

Mr. MARSHALL. I believe we should have a summary placed in the record of these cases that require court action and the disposition of them.

Mr. KAUFFMAN. We will be glad to insert it in the record, Mr. Chairman.

Mr. BAGNELL. Would you like those for some period back? It would be very easy to put them in as far back as you wish.

Mr. MARSHALL. Well, I think for our purposes if we have it back the last 2 years, that would be sufficient.

Mr. BAGNELL. All right, sir.

Mr. MARSHALL. Now, if there are any cases that have been pending in court for more than 2 years, we would be interested in those.

Mr. BAGNELL. Well, there are none actually pending in court for that long. There is one at least in which the whole process, beginning with the administrative proceeding and on down through the judicial officer's order and then the court, that has been in process for more than 2 years.

Mr. MARSHALL. That should be included in the record, too.

Mr. KAUFFMAN. We will be glad to supply that information.

(The material referred to is as follows:)

Since July 1, 1954, two administrative proceedings alleging violations of the Commodity Exchange Act were reviewed by United States Courts of Appeals. In one of these, the sanction imposed by the Department of Agriculture's judicial officer was affirmed by the court. In the other, the appeal is still pending.

A criminal proceeding was disposed of during fiscal year 1955, in which the defendant was fined and imprisoned, and review on certiorari was denied by the Supreme Court.

NUMBER OF EMPLOYEES

Mr. NATCHER. Mr. Kauffman, how many employees do you have in your Division at the present time?

Mr. KAUFFMAN. We have 128 at present.

Mr. NATCHER. Under the proposals for fiscal year 1958, how many employees would you have?

Mr. KAUFFMAN. We would have 128. There would be no increase. The increased estimate is solely for the purpose of meeting the retirement costs beginning next July.

Mr. NATCHER. That is all, Mr. Chairman.

MARGIN REQUIREMENTS

Mr. MARSHALL. Mr. Butz, has the Department made any recommendation for any increase in any of these rates on futures trading?

Mr. BUTZ. What kind of rates do you mean—the margins?

Mr. MARSHALL. The margins.

Mr. BUTZ. I am not aware we have made any recommendation for increased margins.

Mr. KAUFFMAN. No, we have not.

Mr. MARSHALL. Do you feel that the margins required at the present time are sufficient to protect the people of this country?

Mr. BUTZ. In general we feel they are. If the margins get too high, of course they discourage trading, as you know.

FIELD EMPLOYEES

Mr. NATCHER. Mr. Chairman, one other question. Mr. Kauffman, how many employees do you have out in the field that do inspection work?

Mr. KAUFFMAN. Well, we have 89 employees in the field. They are divided among five field offices. We have 31 employees in our New York City office, 43 in our Chicago office, 4 in Minneapolis, 4 in Kansas City, and 7 in New Orleans. I would say that we probably do not

have more than 20 in the field who actually are classified as accountants and investigators. We use accountants on investigative assignments, as well as investigators. I would thing that perhaps 20 would cover it.

Mr. NATCHER. Thank you, sir. That is all.

Mr. BUTZ. Mr. Chairman, I recall a moment ago you asked to have placed in the record some indication of changes in workload, and you associated workload with the number of investigative cases that were reported on page 4 of Mr. Kauffman's testimony. The workload of the CEA is much broader than represented by the investigations they did. I am sure this committee is quite aware of that.

Mr. MARSHALL. We are interested, Mr. Secretary, in the trend of the work.

Mr. BUTZ. Yes. But I would like to ask, if I may, Mr. Kauffman, about what proportion of your total workload is represented by investigations, which last year were 49 compared with 34 for the preceding year.

Mr. KAUFFMAN. Well, I would say a relatively small percentage. First we have to get the reports from the traders and brokers. Those are our eyes and ears, so to speak. We tabulate, summarize, and analyze those reports. And the investigations are relatively a small part of the overall load. If I may, when I supply the information for past years for the record—I will include information showing the detailed workload for the past several years.

Mr. MARSHALL. Yes, we would like it for the last 5 years.

Mr. KAUFFMAN. Yes, we can insert a tabulation, as requested earlier, covering the past 5 years, which will give you the whole picture.

(The material referred to appears on p. 711.)

Mr. BUTZ. Would it be fair to say that a thoroughly effective job of supervision would reduce the number of investigations you would have to do?

Mr. KAUFFMAN. Well, we are always getting complaints, and we cannot ignore them. We have to investigate them.

Mr. BUTZ. Mr. Chairman, I wish to make a brief comment here. In the 3 years I have been in the Department, I have been very pleased with the comments we get on the work of the Commodity Exchange Authority. It is a regulatory body that does exercise the police power of government. I have been told many times by people in the market that they exercise this power fairly and firmly, without favor and without discrimination. And I have been quite pleased with the way this agency operates. They are a rather tightly knit organization, They have asked for no increase in personnel this year, and as I recall last year they asked for only a modest one to take care of the onion exchange added to their responsibility. I think they are doing a very fine job.

Mr. MARSHALL. Thank you, Mr. Secretary. In addition to the supervision that this Department gives, most of the exchanges impose regulations upon their members which must be strictly adhered to.

Mr. BUTZ. Yes, sir.

Mr. MARSHALL. Mr. Kauffman, I recall that you made quite a record in turning money back that you did not feel you needed to use several years.

Mr. KAUFFMAN. Well, my predecessor, I believe, is entitled to credit for that. We have never tried to see how much money we could spend. We have always tried to see how little we could get by on. I think we have been very successful in that respect—sometimes perhaps too successful. But we have certainly operated on a very modest budget. For instance, back in 1939 we had 239 employees; now we have 128.

Mr. MARSHALL. Thank you.

We will stand adjourned until 1 o'clock tomorrow.

THURSDAY, FEBRUARY 7, 1957.

GENERAL AGRICULTURAL OUTLOOK

WITNESS

O. V. WELLS, ADMINISTRATOR, AGRICULTURAL MARKETING SERVICE

Mr. WHITTEN. We are pleased to have you with us, Mr. Wells, to give us a general picture of what has happened to agriculture and why.

Mr. WELLS. I thought I would discuss current agricultural trends, Mr. Chairman, and perhaps you would discuss the corrective measures with other representatives of the Department.

Mr. ANDERSEN. May I say at this point, Mr. Chairman, that this subcommittee has always looked with pleasure toward Mr. Wells' appearance and the appearance of his group here, because I believe that this particular portion of the hearings is quoted more throughout America in farm meetings than any other portion of our subcommittee hearings, because you do bring out very interesting facts.

Mr. WHITTEN. I would like to join with that and also say that the committee has had a great deal of confidence in Mr. Wells and his staff. The basis of most actions by the Congress and others is based on the figures which your Department brings together. They account for a great deal of the work that Congress does in connection with the agricultural program.

Mr. Wells, you may proceed in your own way.

Mr. WELLS. Mr. Chairman, we appreciate the support this committee has given the statistical and economic work that is carried on within the Agricultural Marketing Service, and I should also add within certain branches and divisions of the Agricultural Research Service. We try to handle our statistical material so that it is generally accepted as giving as good estimates or as good measurement as can be obtained—so that people arguing on both sides of the policy questions can start with the same material.

Mr. Chairman, I should like to start this presentation on the general agricultural situation by presenting a summary table and briefly calling attention to what it shows, then go to the charts.

SOIL BANK PAYMENTS, 1956

Mr. WHITTEN. Do your figures this year reflect the so-called soil-bank payments?

Mr. WELLS. Yes, sir.

Mr. WHITTEN. The reason I ask is that it is my opinion that such payments should be carried separately. I hope we will have footnotes that will clearly show which amounts are soil-bank payments.

Mr. WELLS. Mr. Chairman, in farm income work we have always distinguished between cash sales by farmers, which include the products turned to the Commodity Credit Corporation, and direct Government payments to farmers from whatever source they may come, that is, the Wool Act, the Sugar Act, or the soil bank program. I will be glad at the appropriate places in the tables and explanations that will accompany the charts to indicate the amount of soil bank payments included. Soil bank payments ran about $243 million in calendar 1956.

Now, I must say that on the opposite side of that that some of the soil-bank participation also requires expenditures. Those expenditures, of course, do show up in our estimates of amounts spent by farmers for fertilizer, for labor, for lime, for seed, or whatever the case may be, but we have no way of separating the expenditure which is associated with the soil bank program.

Mr. WHITTEN. I just hope it will be kept separate insofar as the situation will permit.

Mr. WELLS. On the income side it is kept separate. On the expenditure side we cannot separate expenditures.

Mr. WHITTEN. You may proceed.

RECENT AGRICULTURAL TRENDS

Mr. WELLS. I have presented this table to summarize some of the principal series which are used to measure the agricultural situation.

I call your attention to the first column, which shows the index of prices received by farmers. You will note that in 1956 the average index of prices received by farmers was the same as in 1955. During 1955 prices were going down and during 1956 they were tending to come up, with the result that the averages for the 2 years are the same. The table also indicates by quarters the fourth quarter 1955 through the fourth quarter for 1956.

The second column shows our measure of prices paid by farmers, the parity index, and you will note that the prices-paid index has continued to increase over the last year, showing a 3.5-percent increase in the fourth quarter of 1956 over the fourth quarter of 1955. The parity ratio has remained somewhere around 81–83 percent in most of this recent period.

The next three columns show the index of farm output. I call your attention to the fact that total farm output continues to increase with the output of American farms at a new record level in 1956. But note especially the subindexes for livestock, animal products, and for crops. You will see that the outturn of animal products increases at a much faster rate than that for crops, with the result that as compared to 1947–49 in 1956 American farms produced 23 percent more animal products and only 6 percent more crop output.

The next column shows the USDA index of per capita food consumption. You will note that in 1956 we estimated the per capita food consumption at 104 percent of the 1947–49 average. You will be interested to know that about two-thirds of that 4 percent increase

is accounted for by the increase in per capita consumption of beef and about one-third is accounted for by the increased per capita consumption of poultry products. The two substantial changes in the American diet since 1947–49 are an increased consumption of beef and an increased consumption of poultry products, especially broilers and turkey meat.

The next column shows the calendar year value of agricultural exports. The present table has only the first 11 months of 1956 included. You will note that for the first 11 months indications are that exports in 1956 will be equal to or even exceed the previous record established in 1947. I would hope, Mr. Chairman, by the time that it is necessary to correct the record that I will be able to include the calendar year total.

The next column, Mr. Chairman, shows cash receipts from farm marketings. This excludes Government payments as such.

The following column shows estimated production expenses of farm operators, which are the actual expenses as nearly as we can estimate them, except in the case of machinery and equipment for which depreciation allowances are used since purchases vary considerably from one year to another.

Then we come to the columns headed "Net income of farm operators." Let me call your attention to the fact that these are the farm operators, the businessmen who operate the farms covered by the income series. I have shown two series. One is the realized net income of farm operators, which is the amount of money that farm operators as businessmen lay their hands on during the calendar year, and which we generally consider the best measure of what is happening to the farm operators' financial position. However, it is true that the number of livestock and inventory of crops on January 1 varies from one year to another, and there is interest in a measure of farm income allowing for these inventory changes. Also since we are responsible for the agricultural portion of the national income accounts as released by the Department of Commerce, we must correct our estimates for inventory changes in order to make them directly comparable with other business. So I have shown here the farm operators' income estimates included in the national total income both as the net realized income and the total including allowance for the change in net crop and livestock inventories on hand January 1.

I would like to say, Mr. Chairman, that the 1956 figures here are slightly different from those which are now published, because we have a schedule which calls for really our first official estimates that go into the national income accounts as of February 6. These will be released in 2 or 3 weeks. The figure that has been generally used for our net realized income has been $11,900 million. Here it is $11,836 million, but I felt you would rather have the figure which will be published within the next few weeks and which will be our official figure until the July revision, than to have one which will be out of date by the time your hearings are published.

You will note some improvement in net realized income of farm operators in 1956, about half of which is due to soil bank payments, which as indicated earlier ran about $243 million in 1956.

The next to the last column traces total farm debt, excluding Commodity Credit Corporation loans. This is a combination of mortgage and short-term debt. You will note a fairly steady increase in debt over the last several years. Our tentative estimates for December 31, 1956, or January 1, 1957, is a total farm debt of $18 billion, or an increase of over $1 billion within the past year.

Finally, I have included an estimate of the value of productive farm assets as of December 31—farmland, livestock, machinery, and working capital. This excludes the value of the farm dwelling, which we charge to farm family living, 40 percent of the value of farm automobiles and farm savings held in savings accounts, bonds, and so forth. It does indicate the productive capital directly invested in the farm process, while the footnote gives the estimated value of total farm assets for 1939 and 1956.

I have presented this table, Mr. Chairman, because I think it sets down some data which are much easier to grasp this way than by our charts, especially where you may want to use specific figures as such.

Mr. WHITTEN. Mr. Wells, we will include this in the record, together with the other charts and information you have. I do think, in view of this overall farm income decline, the table could have included the average income per farmer and per farm for this period of time.

(The table referred to follows:)

Selected data relating to agriculture, United States, 1939, and 1946–56

Year	Index numbers, 1910–14=100		Parity ratio	Index numbers, 1947–49=100				Agricultural exports	Cash receipts from farm marketings [1]	Production expenses [1]	Net income of farm operators [2]		Total farm debt excluding CCC, Dec. 31	Value of productive farm assets, Dec. 31 [4]
				Farm output			Food consumption per capita				Realized [1]	Total, including change in net inventories [1]		
	Prices received by farmers	Prices paid or parity index		Total	Livestock and products	Crops								
			Percent					*Millions*	*Millions*	*Millions*	*Millions*	*Millions*	*Billions*	*Billions*
1939	95	123	77	80	85	82	94	$655	$7,872	$6,162	$4,394	$4,489	$9.5	$39.8
1946	236	208	113	98	101	98	104	3,173	24,770	14,324	15,000	14,923	8.4	84.3
1947	276	240	115	95	100	93	102	3,957	29,664	16,831	17,191	15,458	9.2	93.6
1948	287	260	110	104	97	106	99	3,472	30,253	18,643	15,943	17,695	10.2	99.1
1949	250	251	100	101	103	101	99	3,578	27,864	17,909	13,673	12,866	10.8	97.3
1950	258	256	101	100	106	97	100	2,873	28,405	19,248	12,857	13,716	12.3	113.3
1951	302	282	107	103	111	99	98	4,040	32,909	22,258	14,802	16,111	13.9	126.5
1952	288	287	100	107	112	103	100	3,431	32,538	22,476	14,256	15,120	14.8	122.4
1953	258	279	92	108	114	103	102	2,847	31,169	21,246	13,880	13,263	14.7	117.9
1954	249	281	89	108	117	101	101	3,054	29,714	21,442	12,021	12,487	15.5	121.6
1955	236	281	84	113	121	106	103	3,197	29,264	21,599	11,340	11,680	16.9	124.9
1956	236	286	83	114	123	106	104	4,159	29,999	22,143	11,836	11,586	18.0	[4] 129.0
1955—4th quarter	225	279	81					896	28,900	21,300	11,200	11,400		
1956—														
1st quarter	227	281	81					831	29,700	21,700	11,600	11,500		
2d quarter	241	285	85					1,026	30,000	22,200	11,600	11,300		
3d quarter	239	287	83					979	30,100	22,200	11,900	11,600		
4th quarter	235	289	82						30,300	22,500	12,400	12,100		

[1] Quarterly data are seasonally adjusted annual rates.

[2] Note this is net income of farm operators from farming. Net income to all persons on farms, including hired farm labor, from both farm and nonfarm sources, is a different series, estimated at $7,689 million for 1939 and $19,784 million for 1956.

[3] Includes farm real estate (less value of dwelling), crops held for feed, livestock, machinery, and equipment (less 60 percent of the value of automobiles), and demand deposits used for production. The estimated value of total farm assets as of Dec. 31' 1956, is $176.0 billion, as compared with $53.8 billion on Dec. 31, 1939.

[4] Estimated.

Source: Compiled from Agricultural Marketing Service and Agricultural Research Service data.

Government payments to farmers, 1939 and 1946–56

[Amounts in millions of dollars]

Year	Conservation program	Sugar Act	Wool program	Soil bank program	Other	Total
1939	$526	$28			[1] $209	$763
1946	285	31			[2] 456	772
1947	277	37				314
1948	218	39				257
1949	155	30				185
1950	246	37				283
1951	246	40				286
1952	242	33				275
1953	181	32				213
1954	217	40				257
1955	188	41				229
1956	220	37	$54	$243		554

[1] Price Adjustment Act of 1938, 201; cotton price adjustment, 8 million.
[2] Production payments: dairy, 401; beef, 22; sheep and lambs, $33 million.

NUMBER OF FARMS AND INCOME PER FARM

Mr. WELLS. We have some estimates, Mr. Chairman. If my memory serves me correctly we estimated the number of farms in 1939 at about 6.4 million, in 1949 at about 5.7 million, and at the present time about 4.9 million, so that the income per farm or per farm operator tends to go up a little faster than income to the farm economy as a whole.

Mr. WHITTEN. What I would like is some type of breakdown that would show what has happened to the farmer. This chart, for instance, shows the value of the productive farm assets. It would be interesting to have a table showing how that applied to individual farms, what has been the change in the size of the farm and in the value of each individual farm.

We have witnesses from your Department who have said the average farmer is making more money. Well, he may be grossing more, but if he has had to buy another farm equal to the one he already had, his investment is perhaps twice what it was, so his net position might be worse. At any rate, I would like for these tables to come down to the farmer and the farm, for the reasons that I have described.

Mr. WELLS. We will supply a supplementary table as to the number of farms and income and investment per farmer, and if you would desire there is a supplemental chart showing the increase in the per farm investment over the last several years.

(The tables referred to follow:)

Farm income and productive farm assets per farm, 1939 and 1946–56

Year	Number of farms	Realized gross farm income per farm	Production expenses per farm	Realized net income per farm [1]	Value of productive farm assets per farm, Dec. 31	Realized net income per farm as percent of net value of productive farm assets [1] [2]
	Thousands					*Percent*
1939	6,441	$1,639	$957	$682	$6,179	14.5
1946	5,927	4,947	2,416	2,531	14,223	19.8
1947	5,873	5,793	2,866	2,927	15,937	20.4
1948	5,804	5,959	3,212	2,747	17,074	17.9
1949	5,723	5,518	3,129	2,389	17,002	15.8
1950	5,648	5,684	3,408	2,276	20,060	12.7
1951	5,520	6,714	4,032	2,682	22,917	13.1
1952	5,360	6,853	4,193	2,660	22,836	13.3
1953	5,240	6,703	4,054	2,649	22,500	13.5
1954	5,100	6,561	4,204	2,357	23,843	11.3
1955	5,000	6,588	4,320	2,268	24,980	10.5
1956	4,900	6,934	4,519	2,415	26,327	10.7

[1] Realized net income per farm represents actual dollar income handled within year and is the net realized return to farmer's labor, management, and capital combined. For an analysis of hourly returns to farm operator and family labor, after allowing for 4.75 percent return on capital investment, see following table, "Estimated return per hour to all farm labor, 1939 and 1946–56."

[2] Productive farm assets less farm debt.

Estimated return per hour to all farm labor, 1939 and 1946–56

Year	Total realized return to all farm labor and capital [1] (1)	Allowance for capital at 4¾ percent [2] (2)	Total return to labor and management [3] (3)	Total man-hours required for agricultural production [4] (4)	Realized return per hour to all farm labor and management [5] (5)
	Millions	*Millions*	*Millions*	*Millions*	
1939	$6,247	$2,140	$4,107	20,680	$0.199
1946	19,303	4,061	15,252	18,423	.828
1947	21,849	4,559	17,290	17,593	.983
1948	20,765	5,044	15,721	17,116	.918
1949	18,175	5,299	12,876	16,593	.777
1950	17,367	5,198	12,169	15,227	.799
1951	19,713	6,053	13,660	15,632	.874
1952	19,293	6,723	12,570	15,241	.825
1953	18,675	6,542	12,133	15,102	.803
1954	16,704	6,319	10,385	14,642	.709
1955	16,023	6,506	9,517	14,609	.651
1956 [6]	16,618	6,634	9,984	14,268	.700

[1] Includes realized net income of farm operators, wages to hired farm labor, farm mortgage interest, rent to nonfarm landlords, and short-term interest.

[2] 4¾ percent of current value of farm real estate, inventory value of crops and livestock, inventory value of motor vehicles and machinery, excluding 60 percent of the automobile, and an allowance for working capital. This rate approximates the interest rate on farm-mortgage debt in recent years.

[3] Col. (1) minus col. (2).

[4] Labor requirements in terms of the number of man-hours required for an average adult male worker to perform the various farm jobs.

[5] Col. (3) divided by col. (4).

[6] Based on revised estimates of Feb. 5, 1957.

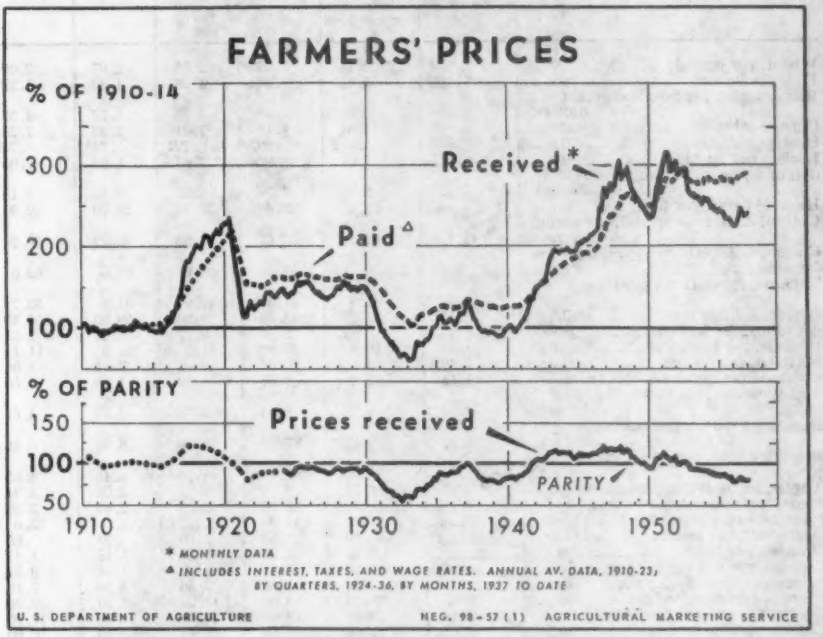
Mr. WHITTEN. You may proceed.

PRICES RECEIVED VERSUS PRICES PAID

Mr. WELLS. Our first chart is the one we started the previous discussion with, showing the index of prices received and the index of prices paid by farmers. I think to this particular group the most significant thing is to call your attention to the fact that in January 1957 prices received by farmers were 12 points or about 5 percent higher than they were in January 1956. Over the same period,

however, the prices paid or parity index had increased 11 points or almost 4 percent. That is, prices received and prices paid moved up at about the same rate during the last year, so that farm prices as a percent of parity have not changed very much.

(The chart and tables referred to are as follows:)



FARMERS' PRICES

Prices received by farmers strengthened during 1956, after declining most of the preceding 5 years. In January 1957, the index was 238 percent of the 1910–14 base, 5 percent higher than a year earlier. Prices paid by farmers for goods and services also increased during 1956 and in January 1957 were not only 4 percent above January 1956 but also 2 points or two-thirds of 1 percent above the previous all-time record. The parity ratio, shown in the bottom section of the above chart, is the relation between prices received and prices paid, and is often used as a measure of changes in the farmer's economic position. Prices received averaged 82 percent of parity in January 1957 as compared with 80 percent in January 1956.

Average prices received by farmers for farm products, United States, Jan. 15, 1957, with comparisons

Commodity and unit	Average		Jan. 15, 1956	Nov. 15, 1956	Dec. 15, 1956	Jan. 15, 1957
	August 1909–July 1914	January 1947–December 1949				
Wheat, per bushel dollars	0.884	2.14	1.95	2.05	2.07	2.09
Rye, per bushel do	.720	1.82	.952	1.24	1.20	1.22
Rice (rough), per hundredweight dollars	1.81	5.38	[1] 4.48	4.55	4.57	4.57
Corn, per bushel do	.642	1.64	1.16	1.21	1.22	1.23
Oats, per bushel do	.399	.852	.622	.724	.744	.752
Barley, per bushel do	.619	1.37	.924	1.01	1.03	1.05
Sorghum, grain, per hundredweight dollars	1.21	2.53	1.78	2.11	2.14	2.13
Hay, all baled, per ton do		22.40	21.30	21.90	22.70	22.90
Cotton, American upland, per pound cents	[2] 12.4	31.21	30.67	31.88	30.99	30.21
Cotton, American-Egyptian, per pound cents			[1] 52.5	68.6	68.6	62.6
Tobacco, types 11–37, per pound cents	[3] 10.0	42.0	51.3	47.9	61.0	52.7
Cottonseed, per ton dollars	22.55	71.60	45.50	59.20	59.90	60.40
Soybeans, per bushel do		2.84	2.19	2.27	2.27	2.31
Peanuts, per pound cents	4.8	10.2	11.9	11.0	11.0	11.1
Flaxseed, per bushel dollars	1.69	5.54	2.96	3.05	3.05	3.04
Potatoes, per hundredweight [4] do	1.14	[1] 2.46	[1] 1.67	1.53	[1] 1.48	1.56
Sweetpotatoes, per hundredweight dollars	1.60	4.28	[1] 3.68	3.70	4.38	4.67
Beans, dry edible, per hundredweight dollars	3.37	9.92	[1] 7.04	6.76	6.81	6.88
Peas, dry field, per hundredweight dollars		4.60	6.29	4.70	4.44	4.05
Apples, for fresh use, per bushel [5] do	.96	2.39	2.76	2.79	3.05	3.24
Pears, for fresh use, per bushel do			1.73	2.26	2.40	2.23
Strawberries, per pound cents		25.7	[1] 41.0			33.0
Grapefruit, per box [6] dollars		.83	.56	1.06	.94	.85
Oranges, per box [6] do		1.23	1.78	1.87	1.57	1.47
Lemons, per box [6] do		2.50	3.05	2.29	1.94	3.35
Limes, per box do		5.52	4.40	2.30	3.36	7.16
Hogs, per hundredweight do	7.27	21.90	10.90	14.20	16.20	17.30
Beef cattle, per hundredweight do	5.42	20.20	13.90	14.60	14.10	14.90
Calves, per hundredweight do	6.75	22.60	16.80	15.40	15.40	16.60
Sheep, per hundred weight do	4.53	9.15	5.78	5.14	5.25	5.71
Lambs, per hundred weight do	5.88	21.90	17.10	17.50	17.40	18.00
Butterfat, in cream, per pound cents	26.3	71.2	57.6	60.4	59.6	59.1
All milk, wholesale, per hundredweight [7] dollars	1.60	4.42	4.24	4.61	4.53	[8] 4.41
Milk, retail, per quart [9] cents	6.8	18.3	21.0	21.3	21.4	21.3
All chickens, live, per pound do	11.4	29.3	20.1	15.7	16.0	17.1
Farm chickens, live, per pound cents		27.7	19.3	13.0	13.5	14.1
Commercial broilers, live, per pound cents		32.1	20.3	17.1	16.9	18.0
Turkeys, live, per pound do	14.4	37.0	31.0	26.0	27.7	27.6
Eggs, per dozen do	21.5	46.6	46.6	37.2	37.1	33.2
Wool, per pound do	18.3	46.0	[10] 37.8	[10] 44.4	[10] 45.6	[10] 46.7
Adjusted for seasonal variation:						
Butterfat, in cream, per pound cents			55.9	50.2	56.8	57.4
All milk, wholesale, per hundredweight [7] dollars			4.00	4.23	4.16	[8] 4.16
Eggs, per dozen cents			49.6	32.9	33.7	35.3

[1] Revised.
[2] All cotton.
[3] All tobacco.
[4] Beginning with January 1957, price estimates in all States relate to average for the month.
[5] Prices prior to July 1954 include some processing.
[6] Equivalent on-tree returns for all methods of sale.
[7] Estimated average prices for the month for all milk sold at wholesale to plants and dealers.
[8] Preliminary.
[9] Sold by farmers directly to consumers.
[10] Average local market price for wool sold; does not include incentive payment to bring season average return to 62 cents per pound.

Based on reports from 9,729 regular price reporters and supplementary data from special commodity surveys, marketing agencies, and related sources. Data are weighted according to relative importance of States to compute United States averages.

Effective parity prices for farm products, and average prices received as percentages of effective parity prices, United States, Jan. 15, 1957, with comparisons [1]

Commodity and unit	Adjusted base prices [2]	Effective parity prices [3]			Average prices as percentages of parity prices [4]		
		Jan. 15, 1956	Dec. 15, 1956	Jan. 15, 1957	Jan. 15, 1956	Dec. 15, 1956	Jan. 15, 1957
Basic commodities:							
Cotton, per pound:							
American upland ..... cents	12.52	34.84	35.81	36.56	88	87	83
Extra long staple ..... do	[5] 26.9	73.9	76.0	78.5			
Wheat, per bushel ..... dollars	[6] .884	[7] 2.38	[7] 2.46	[7] 2.49	82	84	84
Rice, per hundredweight ..... do	1.95	5.42	5.58	5.69	[13] 83	82	80
Corn, per bushel ..... do	[8] .642	[7] 1.73	[7] 1.79	[7] 1.80	67	68	68
Peanuts, per pound ..... cents	[6] 4.8	[7] 12.9	[7] 13.4	[7] 13.5	92	82	82
Tobacco, per pound:							
Flue-cured, types 11–14 ..... do	[5] 19.1	53.4	54.9	55.8		68	
Burley, type 31 ..... do	[5] 19.4	52.0	53.8	56.6	111	120	112
Dark air-cured, types 35–36 ..... do	[5] 11.2	30.3	31.2	32.7	102	105	105
Designated nonbasic commodities:							
Butterfat, in cream, per pound ..... cents	25.0	71.9	74.0	73.0	[8] 78	[8] 77	[8] 79
All milk, wholesale, per hundredweight ..... dollars	1.63	4.61	4.74	4.76	[8] 87	[8] 88	[8] 87
Wool and mohair:							
Wool, per pound ..... cents	[5] 22.1	60.1	61.8	64.5	[9] [13] 63	[9] 74	[9] 72
Mohair, per pound ..... do	[5] 28.8	78.4	80.6	84.1			
Other nonbasic commodities:							
Barley, per bushel ..... dollars	.460	1.33	1.36	1.34	69	76	78
Beans, dry edible, per hundredweight ..... do	3.18	9.05	9.31	9.29	[13] 78	73	74
Cottonseed, per ton ..... do	24.30	69.40	71.40	71.00	66	84	85
Flaxseed, per bushel ..... do	1.54	4.41	4.54	4.50	67	67	68
Oats, per bushel ..... do	.296	.846	.870	.864	74	86	87
Potatoes, per hundredweight ..... do	[8] .830	2.32	2.38	2.42	72	[13] 62	64
Rye, per bushel ..... do	.566	1.66	1.71	1.65	57	70	74
Sorghum, grain, per hundredweight ..... do	.898	2.57	2.64	2.62	69	81	81
Soybeans, per bushel ..... do	1.02	2.87	2.95	2.98	76	77	78
Sweetpotatoes, per hundredweight ..... do	1.77	5.02	5.14	5.17	[13] 73	85	90
Grapefruit, per box [10] ..... do	[11] 1.25	[7] 1.44	[7] 1.51	[7] 1.39	30	62	61
Lemons, per box [10] ..... do	[8] .936	2.57	2.64	2.73	119	73	123
Limes, per box ..... do	[5] 2.06	5.84	6.01	6.02	75	56	119
Oranges, per box [10] ..... do	[11] 2.29	[7] 2.65	[7] 2.77	[7] 2.56	67	57	57
Apples, primarily for fresh use, per bushel ..... do	.977	2.78	2.86	2.85	99	107	114
Beef cattle, per hundredweight ..... do	7.58	21.20	21.80	22.10	66	65	67
Calves, per hundredweight ..... do	8.34	23.30	23.90	24.40	72	64	68
All chickens, live, per pound ..... cents	9.66	28.1	28.9	28.2	72	55	61
Eggs, per dozen ..... do	16.2	45.5	46.8	47.3	[8] 109	[8] 72	[8] 75
Hogs, per hundredweight ..... dollars	7.40	21.00	21.60	21.60	52	75	80
Lambs, per hundredweight ..... do	8.42	23.30	24.00	24.60	73	72	73
Sheep, per hundredweight ..... do	3.42	9.81	10.10	9.99	59	52	57
Turkeys, live, per pound ..... cents	12.6	36.0	37.0	36.8	86	75	75

[1] Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1938 as amended by the Agricultural Acts of 1948, 1949, 1954, and 1956.

[2] Adjusted base price 1910–14 derived from 120 month, January 1947–December 1956, average, (including an allowance where appropriate for unredeemed loans and other supplemental payments resulting from price-support operations) by dividing by 265 percent (the 120-month average of the Index of Prices Received by Farmers adjusted to include an allowance for unredeemed loans and other supplementary payments) unless otherwise noted. Base prices shown apply for 1957 only.

[3] Effective parity prices as computed currently in months indicated using base prices and indexes then in effect.

[4] Percentages of parity are shown for commodities for which midmonth price estimates are available.

[5] Adjusted base price 1910–14 derived from 10 season average prices 1947–56 (including an allowance, where appropriate, for supplemental payments resulting from price-support operations.

[6] 60-month average August 1909–July 1914.

[7] Transitional parity, basic commodities 95 percent and nonbasic commodities 60 percent (65 percent during 1956) of parity price computed under formula in use prior to January 1, 1950.

[8] Seasonally adjusted price as percentage of parity price.

[9] Computed from local market price for wool sold, not including incentive payments to bring season average return to 62 cents per pound.

[10] Equivalent on-tree returns for all methods of sale.

[11] 10-season average 1919–28.

[12] Revised.

Index numbers of prices paid by farmers, interest, taxes, and wage rates, and related data, United States, Jan. 15, 1957, with comparisons

[1910–14=100]

Indexes and ratios	Averages		1955		1956			Jan. 15, 1957
	1935–39	1947–49	Nov. 15	Dec. 15	Jan. 15	Nov. 15	Dec. 15	
Prices paid by farmers:								
Commodities and services, interest, taxes, and wage rates	125	250	279	278	281	289	[1] 290	292
Prices paid	124	240	259	259	[1] 260	267	[1] 268	269
Family living items	124	244	273	273	272	281	[1] 283	283
Food and tobacco	117	239	----	260	----	----	271	----
Clothing	117	285	----	312	----	----	321	----
Household operation	118	178	----	199	----	----	202	----
Household furnishings	137	256	----	273	----	----	276	----
Building materials, house	154	339	----	398	----	----	407	----
Autos and auto supplies	147	233	304	302	301	319	317	318
Production items	124	237	244	243	246	252	[1] 252	255
Feed	105	231	199	200	200	208	210	211
Feeder livestock	124	348	268	252	270	270	253	274
Motor supplies	104	140	----	163	----	----	169	----
Motor vehicles [2]	161	280	374	378	375	395	400	400
Farm machinery	153	239	----	323	----	----	337	----
Farm supplies	140	235	----	270	----	----	286	----
Building and fencing materials	145	296	----	367	----	----	383	----
Fertilizer	102	143	----	[3] 152	----	----	[3] 151	----
Seed	118	242	----	[3] 228	----	----	[3] 218	----
Interest [4]	119	79	136	136	152	152	152	164
Taxes [5]	182	270	409	409	[1] 422	422	422	445
Wage rates [6]	121	430	518	518	522	550	550	554
Parity ratio [7]	86	108	80	80	80	81	82	82

[1] Revised.
[2] Includes autos, trucks, and tractors.
[3] Estimated unchanged since Sept. 15, date of last previous survey.
[4] Interest payable per acre on farm real estate debt.
[5] Farm real estate taxes payable per acre (levied in preceding year).
[6] Seasonally adjusted.
[7] Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. Not necessarily identical to a weighted-average percent of parity for all farm products largely because, pursuant to law, parity prices for some products are on the modernized formula, others are on the old formula, and some are on a transitional basis.

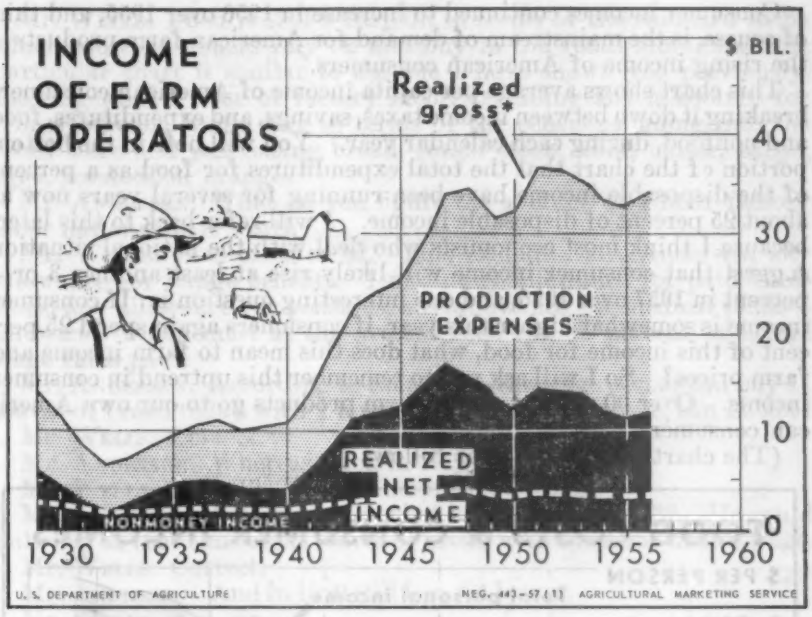
GROSS AND REALIZED NET FARM INCOME

Mr. WELLS. The second chart shows the gross income of farm operators and breaks it into production expenses and net realized income. Within the net realized income section, the broken white line indicates what portion is cash and what portion is the value of products produced and used on the farm. You will note that 1955 is the first year since 1951 that the net realized farm income has not decreased. There was a small increase, a little better than 4 percent, according to our current estimates.

Mr. WHITTEN. Does that include the soil-bank estimate of $1,200 million?

Mr. WELLS. No, this estimate is for calendar year 1956, Mr. Chairman, and the soil-bank payments were only $243 million. About half of the increase in net realized farm income is attributable to soil-bank payments. The total mentioned earlier of about $1.25 billion covers the full estimate for the 1957 program. We measure income during the year when the farmer gets the actual check and you of course, make authorizations in advance.

(The chart referred to is as follows:)



INCOME OF FARM OPERATORS

Both the realized gross and realized net income of farm operators showed some increase in 1956, following a 4-year decline. A 3-percent increase in the volume of farm products marketed and Government payments under the soil-bank ($243 million) and wool-incentive ($54 million) programs accounted for the increase in gross income over the preceding year. Prices received by farmers for farm products averaged the same in 1956 as in 1955. Farm production expenses, which have tended to increase relative to gross income over the years, were only slightly higher in 1956 than in 1955. The realized net income available for farm-family living and investment purpcses in 1956 is estimated at $11.8 billion compared with $11.3 billion in 1955 and the 1947 peak of $17.2 billion.

Mr. WELLS. Mr. Chairman and members of the committee, from here I move into the three mainstreams of demand for farm products; first, the consumer demand; second, the foreign demand; and third, the reservation demand or the support price Commodity Credit Corporation holding operation.

Mr. VURSELL. May I ask a question before you go into that? The black represents the net income?

Mr. WELLS. The black section on the chart indicates what the farmer has left after paying production expenses.

Mr. VURSELL. Production expenses apparently are greater than net income.

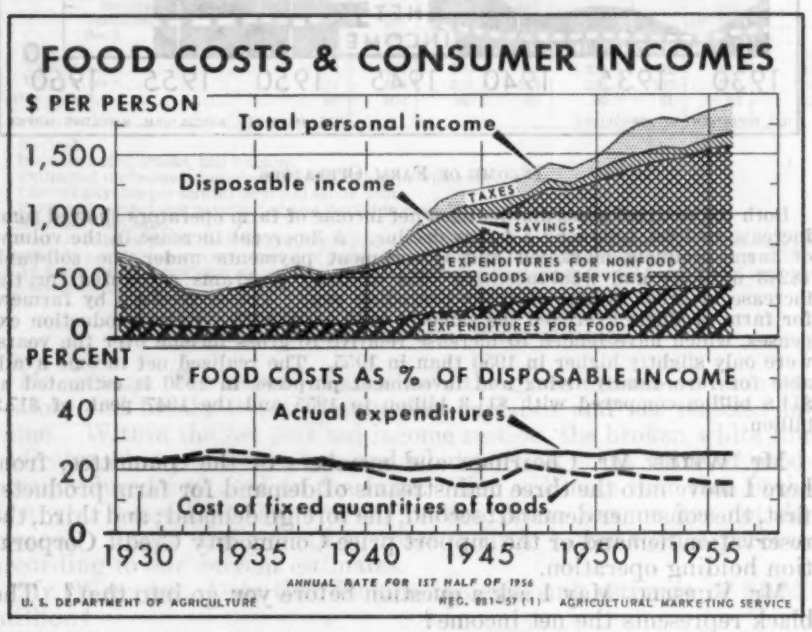
Mr. WELLS. Yes. Production expenses are now running about $22 billion a year, and net realized income is running about $11 a year, so that what we are saying is that a commercial farmer for each $3 he takes in pays out $2 in cash operating cost.

FOOD COSTS; CONSUMER INCOMES

Consumer incomes continued to increase in 1956 over 1955, and this, of course, is the mainstream of demand for American farm products—the rising income of American consumers.

This chart shows average per capita income of American consumers breaking it down between income taxes, savings, and expenditures, food and nonfood, during each calendar year. You will note in the bottom portion of the chart that the total expenditures for food as a percent of the disposable income have been running for several years now at about 25 percent of disposable income. I will refer back to this later, because I think most economists who deal with the national situation suggest that consumer income will likely rise at least another 3 or 4 percent in 1957 over 1956, and one interesting question is: If consumer income is somewhat higher this year, if consumers again spend 25 percent of this income for food, what does this mean to farm income and farm prices? So I will ask you to remember this uptrend in consumer income. Over 90 percent of our farm products go to our own American consumers.

(The chart referred to is as follows:)



FOOD COSTS AND CONSUMER INCOME

The income per person of American consumers, who comprise by far the largest market for farm products, continued to increase in 1956, and with it food expenditures also rose. Consumers have spent about 25 percent of their disposable income for food since 1948, a somewhat higher proportion than during the war and prewar periods. If consumers were purchasing the same quantities and qualities of food per person now as they did in the 1930's, food expenditures would account for a smaller proportion of disposable income, only about one-sixth. However, food consumption per person has increased about 14 percent, and consumers are purchasing more market services with their food.

FOOD STILL A BARGAIN

Mr. WELLS. Food is still a bargain in terms of the standard items which most consumers rely on and buy in the retail store, and this particular chart is similar to the one I have shown you previously, showing what 1 hour of factory labor, excluding any allowance for fringe benefits, would buy in terms of the consumer going into the retail store and purchasing bread, round steak, milk, butter, bacon, eggs, potatoes, or oranges.

Mr. ANDERSEN. What do you figure the average of 1 hour factory labor nationwide is worth?

Mr. WELLS. It is close to $2. This excludes, Mr. Andersen, any allowance for fringe benefits. I mean any allowance for paid vacations, any allowance for pensions, any allowance for medical plans—allowance which must at the present time run 15 percent of actual wage rates paid.

Mr. ANDERSEN. According to that chart, the wage earner can buy 11 loaves of bread today with 1 hour's wage, on the average, can he not?

Mr. WELLS. Correct.

Mr. ANDERSEN. Whereas, back in 1929—is that 1929?

Mr. WELLS. 1929, 1939, 1955, and 1956.

Mr. ANDERSEN. Let us discuss what he could do in 1939. He could only buy at that time eight loaves of bread with the same hour's wage.

Mr. WELLS. Correct.

Mr. ANDERSEN. And in 1929 still less, 6.4 loaves.

Mr. WELLS. Yes, sir.

Mr. ANDERSEN. That general ratio seems to extend all down through the chart, does it not?

Mr. WELLS. That is correct. Yes, this is the general story for food.

Mr. ANDERSEN. It would seem from that that as usual, as has been pointed out here the last few years by you, the consumers on an average do have a bargain in their food, do they not?

Mr. WELLS. I am saying for standard food items the consumer does have a bargain; yes.

Mr. WHITTEN. To follow up the statements of Mr. Andersen, it could be pointed out, too, that the retail price of this food carries with it retail store costs, including markup, packaging, and similar items. If you were to take out the increases in the spread between what the farmer gets for the product and what the consumer pays at the store, the relative comparison would be even more noticeable.

Mr. WELLS. Correct, Mr. Chairman.

Returning to the previous chart, the second half, the heavy black line here shows the estimated percent of consumer expenditures which went for food as consumers actually buy it. The dotted line in this same lower section shows what we estimate food would have cost if it had been bought in the same form and with the same kind of services as were associated with it in 1939; in other words, without adding the additional services and resulting added cost. If more people did not eat in restaurants, if we did not buy more packaged foods, did not demand more services with our food, then the percentage of consumers' expenditures going into the food would be substantially less than it is now.

(The chart referred to is as follows:)

QUANTITIES OF FOOD 1 HOUR OF FACTORY LABOR WILL BUY

When food prices are measured relative to hourly wage rates, most staple food items represent very good buys. The quantities of certain foods which 1 hour of factory labor would buy in 1929, 1939, 1955, and 1956, as measured by estimated hourly wages of factory labor and average retail food prices are indicated in the above chart. One hour's factory labor would buy more of each of these foods in 1939 than in 1929, more in 1955 than in 1939 and more in 1956 than 1955 except for butter, which was the same, potatoes, and oranges.

Mr. MARSHALL. Mr. Wells, we have been hearing a lot about needing to do something to curb inflation recently. Your charts indicate to me that if the farm prices had not dropped off as they have our spiral of inflation would be a great deal more indicated than it is.

Mr. WELLS. Mr. Marshall, I was before the Joint Economic Committee a few days ago, and I was specifically asked where the cost-of-living index would be today if farm prices instead of coming down since 1951 had increased as nonfarm prices have. I think the answer is the consumer price or cost-of-living index, if farm prices had gone up as much as other prices and if the food margins were what they actually are at the present time, would have been somewhere between 3 and 4 percent above where it is now.

Mr. MARSHALL. Between 3 and 4 percent of where it is now?

Mr. WELLS. Yes; just assuming that farm prices instead of coming down from early 1951 had gone up as other prices have gone up, there would be a rise or not less than 3 percent, in my opinion, and not more than 4 percent.

Mr. ANDERSEN. Mr. Wells, following up Mr. Marshall's line of thinking, have you made any study as to what would be that fair per-

centage? You have shown it there as about 25 percent. If the farmer the last 10 years had followed up along the economic scale and had the same line of increase generally speaking, or a just share of our economy as other groups have had, what would it be? Now, I have had the figure quoted to me that the farmer has been shortchanged an average of $8 billion a year since the high point in 1947. By "shortchanged" I mean that he should have received that much more gross—I am talking about gross now—for his product if he had followed the same general upward trend, which has in most lines of our economy progressed above the 1947 level. Have you any comments on just where that 25-percent line would be, Mr. Wells, if the farmer had had his decent share of our prosperous economy?

Mr. WELLS. Well, I have actually made no study of that.

Mr. ANDERSEN. But you have mentioned the 4 percent.

Mr. WELLS. What I have said is the cost-of-living index would probably be between 3 and 4 percent higher if farm prices had moved as other prices moved. Another way of saying it is that currently the national food bill runs about 55 to 60 billion dollars for United States produced food, and should you add your $8 billion to it and the percentage of disposable consumer income going to food would have to be increased about 3 percent, other things staying the same.

Mr. ANDERSEN. Another question enters my mind. There is some talk about controls in the morning newspaper. I hope that if such controls are instituted the President will take into account the fact that agriculture has already been squeezed down, and that instead of having controls applied to agriculture there should be a little cushion for agriculture to rebound up to the level it should have.

FOOD MARKETING COSTS

Mr. WELLS. Moving on to the field that our questions have taken us into, let me point out that ordinary American housewives do not buy farm products as such. They buy food in a retail store, and you have to look at your retail food prices to see what portion are marketing services and marketing costs and what portion is return to the farmer.

This chart traces the marketing cost and farm shares of the consumer dollar for a number of years. Since we are now back in 1956 at about the same percentage distribution of the consumer dollar as 1940, I have shown 1940, also 1945 which was the last year under price control in World War II, 1949–51, and then by years to date. You will note that the farmer's share of the retail dollar has now been trending steadily downward since 1951 and that the marketing share has been trending steadily up.

(The chart referred to is as follows:)

FARMER'S SHARE AND MARKETING MARGIN OF RETAIL FOOD DOLLAR

Charges for processing and distributing a "market basket" of foods produced on United States farms rose 1 percent from 1955 to 1956 to continue the gradual increase of recent years. The slight gain in marketing charges was matched by a slight decline in the average prices received by farmers for food products. As a result, the farmer's share of the consumer's food dollar declined from 41 cents in 1955 to 40 cents in 1956. However, the decline in the farmer's share in 1956 was less than in any other year since 1952 and the farmer's share of the consumer's retail food dollar actually showed a small increase, from 39 to 40 cents, for the fourth quarter of 1956 over the fourth quarter of 1955.

Mr. WHITTEN. Mr. Wells, that is a most interesting table. I want to say on behalf of the committee that we take a whole lot of pride in these charts being shown now that resulted from the committee action a few years ago.

Particularly is that true in foreign exports, where it was this committee that insisted that we offer our commodities competitively in world trade. I am highly pleased at the job the Foreign Agricultural Service is doing in keeping us advised as to what is going on in foreign countries with regard to expansion in production and moving of their commodities.

Another thing for which this committee set the money aside was this detailed study on where the consumer's dollar goes, that part of it that is between the price the farmer receives and the price the consumer pays. This table is in line with that. I do think the record should show we are proud of these results which have flowed from the action of this committee.

(The table referred to is as follows:)

The farm food market basket: Retail cost, farm value, marketing margin, and farmer's share of retail cost, 1947–56

Year and month	Retail cost [1]	Farm value [2]	Marketing margin	Farmer's share
				Percent
1935–39 average	(3)	(3)	(3)	40
1947	$932	$471	$461	51
1948	994	498	496	50
1949	939	435	504	46
1947–49 average	955	468	487	49
1950	924	432	492	47
1951	1,026	495	531	48
1952	1,035	482	553	47
1953	1,010	450	560	45
1954	993	425	568	43
1955	975	396	579	41
1956 [4]	976	390	586	40
1955:				
January	968	410	558	42
February	976	409	567	42
March	977	412	565	42
April	980	413	567	42
May	975	400	575	41
June	978	401	577	41
July	984	395	589	40
August	978	390	588	40
September	984	397	587	40
October	977	383	594	39
November	962	371	591	39
December	960	366	594	38
1956:				
January	951	369	582	39
February	946	366	580	39
March	949	374	575	39
April	956	382	574	40
May	968	396	572	41
June	991	405	586	41
July	1,005	409	596	41
August	991	403	588	41
September	991	400	591	40
October	991	397	594	40
November	984	390	594	40
December [4]	984	392	592	40

[1] Retail cost of average quantities of farm foods purchased per urban wage-earner and clerical worker family in 1952, calculated from retail prices collected by the Bureau of Labor Statistics.

[2] Payment to farmers for equivalent quantities of farm produce minus imputed value of byproducts obtained in processing.

[3] Comparable dollar figures not available. The farmer's share and index numbers of the retail cost, farm value, and marketing margin for the years 1913–55 were published in the April 1956 issue of Marketing and Transportation Situation.

[4] Preliminary.

Mr. WELLS. I would like to say that this of course is not a complete analysis of the marketing cost situation but simply one index. Although there was a decline from the calendar year average 1955 and 1956, I would call to your attention that the farmer's share of the consumer dollar in the fourth quarter of 1955 was 39 cents and the fourth quarter of 1956 was 40 cents. In this particular instance there has been a very slight improvement. Mr. Chairman, we also have Mr. DeLoach, who is in charge of our marketing costs, with us here today.

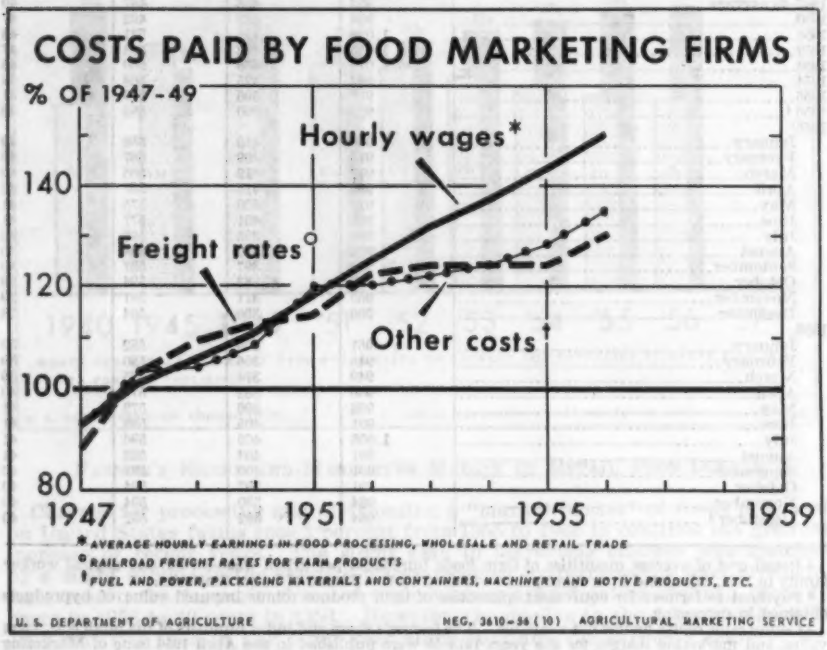
Mr. ANDERSEN. One question, Mr. Wells, before you leave the chart. Are we going to have to assume from now on that the best the farmer can get out of the consumer's dollar is about 40 cents?

Mr. WELLS. I should hope it would be no lower, Mr. Andersen, and I should hope it would go higher. But remember I said "I should hope." Realistically, this is the picture as of now.

Let me show you what is happening to marketing costs. This next chart shows indexes of hourly wages in the food-marketing industries, of freight rates, and of the material and other costs which various

marketing agencies have to incur in handling farm food products. This is not a measure of the efficiency of an hour's work; these are just wage rates. You can see what is happening to them. You are all aware that the southern railroads received or had a 5 percent increase in freight rates approved yesterday or the day before, and what the western and southwestern motor carriers are now filing requests for a 5 percent increase in their rates.

(The chart referred to is as follows:)



COSTS PAID BY FOOD-MARKETING FIRMS

Rising costs have been chiefly responsible for the increase in the charges per unit for marketing farm food products over the last several years. Since 1947, hourly earnings in food processing and the wholesale and retail trade have increased 61 percent. Labor costs make up about half of the total costs paid by marketing firms. Freight rates have increased 18 percent since 1947 while other costs, such as fuel and power, packaging materials and containers, machinery and motive products, have risen 45 percent.

Mr. WHITTEN. Could we have in the record—we have had it heretofore—a listing of the number of changes in freight rates since World War II?

Mr. WELLS. Yes, Mr. Chairman. I have tables which we have put in the record before, including the freight rate table, which is to date through the 5 percent increase to the southern railroads.

Mr. WHITTEN. We would like for you to include all that information in the record.

(The tables referred to are as follows:)

Chronology of General Increases in Freight Rates Subsequent to June 30, 1946

Commencing in 1946, the railroads have received 14 general increases in freight rates in varying amounts. These increases have been granted in seven general proceedings before the Interstate Commerce Commission, some of which were granted on interim basis followed by a final authorization.

As indicated in the following table, competent authorities estimate that the general level of freight rates today is 98.8 percent higher than the general level of June 30, 1946.

Effective date of freight rate increases	ICC Docket No.	Percent increase over—	
		Rates in effect on June 30, 1946 cumulated	Rates in effect immediately prior to increase shown
July 1, 1946	Ex Parte No. 148	6.5	6.5
	Ex Parte No. 162		
Jan. 1, 1947	Ex Parte No. 148	17.6	10.4
	Ex Parte No. 162		
Oct. 13, 1947	Ex Parte No. 166	28.1	8.9
Jan. 5, 1948	Ex Parte No. 166	37.8	7.6
May 6, 1948	Ex Parte No. 166	42.8	3.6
Aug. 21, 1948	Ex Parte No. 166	44.2	1.0
Jan. 11, 1949	Ex Parte No. 168	51.7	5.2
Sept. 1, 1949	Ex Parte No. 168	57.3	3.7
Apr. 4, 1951	Ex Parte No. 175	61.1	2.4
Aug. 28, 1951	Ex Parte No. 175	67.6	4.0
	Ex Parte No. 175	78.9	6.8
Dec. 1, 1955	Ex Parte No. 175	(1)	(1)
Mar. 7, 1956	Ex Parte No. 196	88.8	5.5
Dec. 28, 1956	Ex Parte No. 206	98.4	5.1
February 1957 [2]	Ex Parte No. 206	98.8	.2

[1] Previous increase made permanent.

[2] Southern railroads granted 5 percent increase Feb. 4, 1957 effective date approximately Feb. 19, 1957. Products of agriculture have not all received the full impact of these increases due to lesser increases on specific commodities so that the average increase on this class of freight has been approximately 84 percent, 1946 to date.

Source: Interstate Commerce Commission. Monthly Comment on Transportation Statistics, May 1956, January 1957.

Estimated overall percentage increases in rail freight rates authorized by ICC since June 30, 1946

Commodity group	Estimated cumulative percentage increase since June 30, 1946 [1]
Products of agriculture (CL)	83.7
Grain and grain products	88.1
Citrus fruits	67.9
Other fresh fruits	67.0
Fresh vegetables	71.1
Other products of agriculture	100.3
Animals and products	100.4
Livestock	106.1
Meat and edible packinghouse products	107.8
Other animals and products	108.2
Manufactures and miscellaneous	110.7
Vegetable oils	108.3
Sugar, sirup, and packaged foodstuffs	105.2
All traffic, carload and less than carload	98.8

[1] Average increase on all agricultural products (including products of agriculture, animals and products, and manufactures and miscellaneous categories) estimated to be 84 percent higher than at the end of World War II; average on all commodities, including nonagricultural products, about 99 percent higher than at the end of the war.

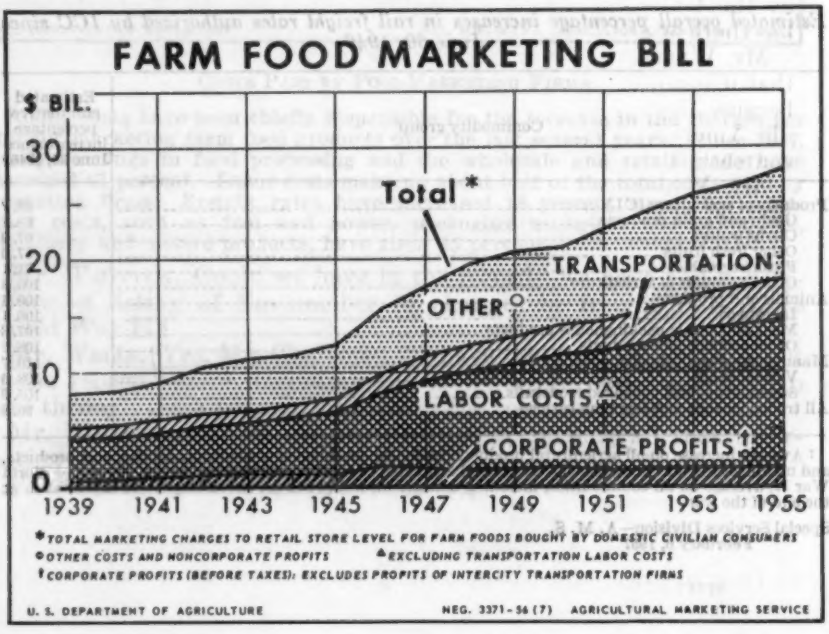
Special Services Division—A. M. S.
February 6, 1957

Mr. WELLS. Now, translating the volume of food products handled and the cost as best as we can estimate it into the total marketing bill for food, we get the picture shown on this next particular chart.

Also let me go back a minute to the consumer income chart. Last year total consumer incomes, total disposable consumer incomes after allowance for income taxes, if I remember correctly, was somewhere amound $288 billion. If we assume about a 3 percent increase this year over last year that would be about $8.5 billion. If we assume that 25 percent of that is spent for food, that would be $2,125 million and then allow for the fact that somewhere between 12 and 15 percent of that is sales of a non-United States farm origin, chiefly imported food, such as coffee, bananas, tea, and spices. We come out with about $1,800 million additional that consumers might spend for food if consumer incomes go up 3 percent and if they continue to spend 25 percent of their income for food. Over the last eeveral years you will notice that the total farm food marketing bill has been increasing at a rate of roughly $1¼ billion a year. Last year it was 1^{1}/_{10}$ billion. So that if the food marketing bill again increases $1.1 to $1.3 billion, it would leave about an extra $500 million to $700 million for increased cash receipts to farmers. I am not suggesting you gentlemen accept these estimates as being precise estimates of what is going to happen, but I am illustrating what this steady uptrend in the food marketing bill means in relation to the increase in consumer income, because once again the consumer buys retail food, which must cover not only the farm return but also the entire marketing cost.

This chart also tries to break food marketing costs down between direct labor costs and the other main marketing costs, transportation costs, corporate profits before taxes, and material and other costs, which of course could in turn be broken down in turn to labor, transportation, etc.

(The chart referred to is as follows:)



FARM FOOD MARKETING BILL

The bill for marketing food products produced on United States farms has increased each year since 1939. The estimated total of $29 billion for 1956 compares with the 1947–49 average of $19.5 billion and the 1939 figure of $8.2 billion. The steady increase has been due to rising charges per unit of product, an expanding volume of products and increases in marketing services per unit. Charges per unit and the volume marketed have each increased 21 percent since 1947–49. In 1955, labor costs made up 47 percent of the marketing bill, transportation charges 13 percent, corporation profits (before taxes) about 6 percent, and other costs and noncorporate profits 34 percent.

FARM EXPORTS

Mr. WELLS. Now, turning from consumer income or domestic demand to the foreign export demand, I would like to start with this chart, which shows the increase in farm exports over the last several years.

You will note the very sharp drop from a total shipside value of farm exports of over $4 billion in fiscal year 1952 down to about $2.8 billion in fiscal year 1953. You will note that we have now had three, and when fiscal year 1957 is through we will have a fourth year of increased farm exports. I think that fiscal year 1957 will be back at about the same level as fiscal year 1952 as far as dollars are concerned. As far as volume of product is concerned, it will be a record, because prices are somewhat lower.

The point I want to make here, however, is that I have broken these bars into that portion of the export demand which is financed or assisted by the United States Government creating dollar exchange by one means or another, and the portion which is sold without any form of Government aid. Almost all of the increase over the last 4 years has been assisted or in part financed by our own governmental actions. The nongovernmental portion remains almost constant.

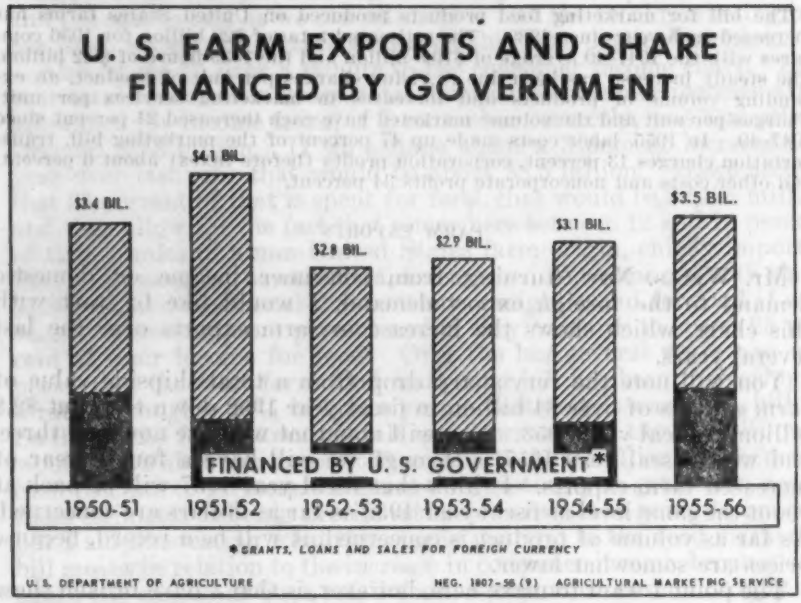
Mr. MARSHALL. Mr. Wells, this last year's portion that was financed by the United States Government, is that the highest on record or has there been a year that has exceeded that?

Mr. WELLS. I cannot answer that. I would suspect, Mr. Marshall, that it is not the highest proportion ever financed by the Government, because there was a while early in World War II when practically all American farm exports moved under lend-lease, which we of course financed ourselves.

Mr. MARSHALL. I was not thinking so much in terms of the proportion as I was the total amount.

Mr. WELLS. This would also be true of the total amount, because those lend-lease shipments were very large indeed, but for the modern postwar period since we moved out of the world food crisis and since UNRRA and lend-lease have been liquidated, this fiscal year will be well up—about to here [indicating].

(The chart referred to is as follows:)



UNITED STATES EXPORTS AND SHARE FINANCED BY UNITED STATES GOVERNMENT

The value of exports of agricultural products has increased in each of the last 3 fiscal years. The 1955–56 total of $3.5 billion was $0.6 billion below the record of 1951–52 when exports were stimulated by the hostilities in Korea. However, export prices have declined and the volume of exports in 1955–56 was a postwar record. Movement of farm products abroad has continued to increase during the current fiscal year. The total value of exports during July–December 1956 was $2.3 billion, $700 million above the same period a year earlier. The proportion of United States agricultural exports financed by the United States Government has increased the last 3 years. In 1955–56, 32 percent of the total value of exports was financed by grants, loans or sales for foreign currency, and an additional 9 percent were bartered; in 1951–52, 19 percent of total farm exports were financed by the United States Government.

Mr. ANDERSEN. Mr. Wells, would you place in the record at this point a little discussion relative to competing farm imports which come into our country?

Mr. WELLS. Yes. I can get a total figure on imports and break it down between the competing and noncompeting.

Mr. ANDERSEN. That is all I want at this point.

(The information is as follows:)

Imports of agricultural products, United States, 1939 and 1946–56

[In millions of dollars]

Year	Total agriculture	Supplementary				Complementary			
		Total	Sugar	Wool	Meats	Total	Coffee	Rubber	Cocoa
1939	1,118	526	125	24	20	592	140	179	28
1946	2,297	1,196	197	235	5	1,101	470	236	57
1947	2,760	1,406	411	160	12	1,354	599	318	152
1948	3,149	1,618	313	214	78	1,531	697	309	194
1949	2,893	1,440	372	165	62	1,453	793	240	124
1950	3,990	1,807	381	282	96	2,183	1,091	458	167
1951	5,166	2,319	387	590	165	2,847	1,358	809	197
1952	4,518	1,902	416	299	139	2,616	1,376	619	178
1953	4,183	1,803	425	203	162	2,380	1,469	331	167
1954	3,961	1,558	411	145	167	2,403	1,406	262	252
1955	3,967	1,549	414	152	148	2,418	1,357	441	185
1956 [1]	3,262	1,345	403	128	104	2,035	1,199	331	127

[1] January-October.

Agricultural Marketing Service.

Compiled from Foreign Agriculture reports.

Mr. WELLS. In this following chart we show for the fiscal year ending June 30, 1956, the proportion of strictly commercial versus the part which had some form of Government aid for several of our more important farm commodities—fats and oils, coarse grains, tobacco, cotton, dairy products, and others.

Mr. WHITTEN. What is the difference between your black and white lines there?

Mr. WELLS. The black shows the Government-assisted portion of last year's exports for each commodity, the white is the normal commercial sales. You people last year were interested in some commodity detail, and this seemed to be as good a chart as I could present showing you something about the extent to which Public Law 480 and various other programs were assisting particular commodities.

Mr. ANDERSEN. How is it, Mr. Wells, that the figures do not show up a little better relative to fats and oils? First, what does the black indicate there?

Mr. WELLS. The black is the Government-assisted portion.

Mr. ANDERSEN. And the white?

Mr. WELLS. The white is the strictly commercial. The fats and oils would be chiefly Public Law 480, and there were not much fats and oils included under Public Law 480.

Mr. ANDERSEN. It was my information, or at least I had the impression, that there was a considerable scarcity of fats and oils in some of these countries that we have been endeavoring to help. Is that a fact?

Mr. WELLS. I should think that is true. The market for fats and oils on the whole has not been too bad.

Mr. ANDERSEN. What surprised me is that the black on the line has not been longer.

Mr. WELLS. I think the fact is that it is something they are spending their own dollars for.

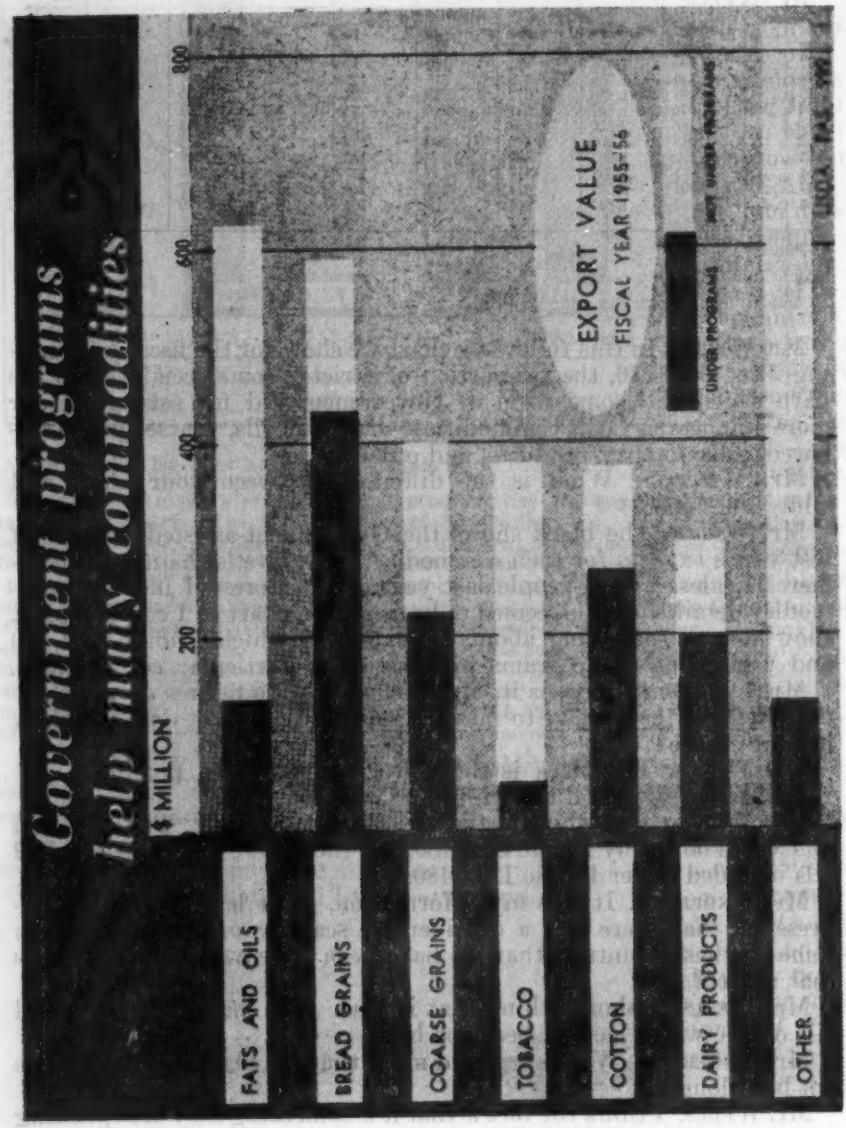
Mr. ANDERSEN. In other words, they needed it badly enough to spend their own dollars for it.

Mr. NATCHER. Mr. Wells, on that particular chart how much change do we have in the years 1955–56 and 1954–55 in tobacco? Approximately what is the change there as far as export is concerned?

Mr. WELLS. There was practically no Government assistance in 1954–55.

Mr. NATCHER. Thank you.

(The chart referred to is as follows:)



GOVERNMENT PROGRAMS HELP EXPORTS OF MANY COMMODITIES

Government programs including sales for foreign currencies, barter sales, economic aid grants, welfare and relief donations, and loans, accounted for about 41 percent of the total value of agricultural exports in fiscal 1956. Last year United States Government programs accounted for these shares of major export groups: cotton, 72 percent; dairy products, 55 percent; bread grains, 72 percent; coarse grains, 58 percent; fats and oils, 22 percent; and tobacco, 14 percent.

Mr. WELLS. The following chart indicates what has been, I think, the most dramatic single improvement in our export position.

Notice what has happened to our cotton exports for the 1956 season as compared with the preceding seasons. The total bar shows the total world trade in cotton, and the black shows the United States trade in bales and by comparison with the full bar in proportion to the world total.

Mr. WHITTEN. That verifies the arguments I have used repeatedly with Mr. Benson and his departmental people. If we offer our cotton competitively it will sell. We finally got people to move off dead center and support that view.

The other statement I would make here is that, if we had been offering cotton competitively in the world markets for the last 4 or 5 years, and had been even only 75 percent as successful as we have this year, this drastic curtailment in cotton acreage which resulted in movement of 55,000 farm families off cotton farms in 1 year might not have occurred. Certainly it would have been much less than it was. We have taken a 35 percent cut in acreage in cotton, and those tables tend to show that.

Mr. WELLS. The competitive pricing of cotton for export has certainly been very successful. I think it is true that partly we are building up the stocks which were depleted the preceding year, so I would not necessarily forecast 6½ million bales as the normal level year after year.

Mr. WHITTEN. On the other hand, the total world production of cotton would doubtless be considerably less had these foreign countries realized that the United States was going to retain its normal share of world markets. Your chart would show the United States share of total production to be much greater, had we stayed in the markets during those 4 or 5 years on a competitive basis.

Mr. WELLS. It would have been substantially greater back for 3 or 4 years.

Mr. WHITTEN. That is right.

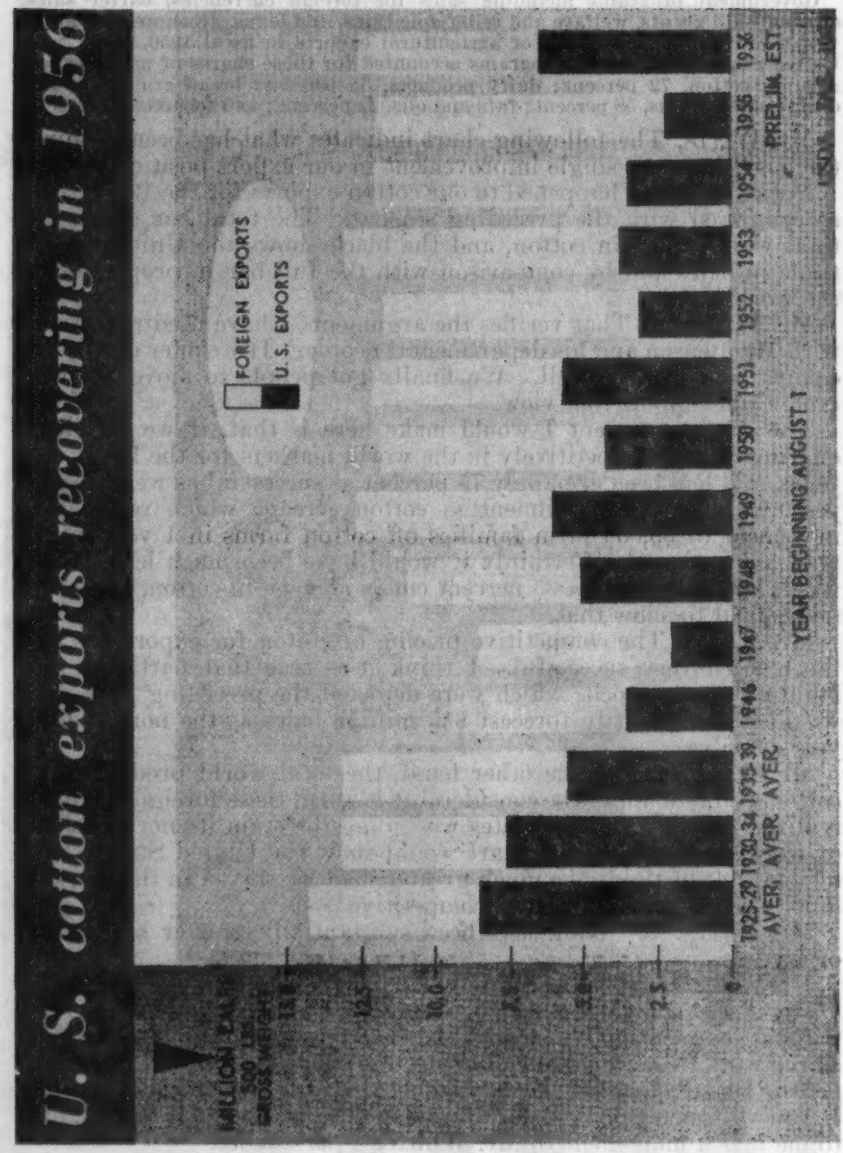
Mr. ANDERSEN. Mr. Wells, I cannot let the preceding chart go by without commenting that the last bar there would indicate the efficacy of the work of our chairman during the last 3 or 4 years in trying to get the Department to agree to the fact that you can sell cotton abroad if you will put it down at a level where the market will take it, and to me it is a monument to Mr. Whitten's persistence.

Mr. WHITTEN. I appreciate the statement.

Mr. ANDERSEN. You agree with my statement, do you not?

Mr. WELLS. Yes, sir.

(The chart referred to is as follows:)



UNITED STATES COTTON EXPORTS RECOVERING IN 1956

Exports of cotton so far in the 1956–57 marketing year are running far ahead of last season's rate. The total for 1956–57 is expected to reach 6.5 million bales, compared with the 1955–56 total of 2.2 million, the smallest quantity shipped abroad since 1947. Main factors in the increase this year are the reduced prices at which United States cotton is being sold for export and the small carryover stocks in the foreign free world. Exports of cotton declined from 1951 to 1955 while total world exports held fairly constant. Consequently, the share of the world market held by the United States dropped from about

47 percent in 1951–52 to 18 percent in 1955–56. With the prospective increase in exports this year, the United States' share of the world cotton market probably will increase to about 45 percent.

Mr. WELLS. The next chart shows farm commodities generally that are produced and result in export surpluses over the world that are sold in competition with our commodities, an index of foreign production. You will note what has been happening as we came out of the war period, a very rapid increase for a number of years and then for the last several years some slowing down. I understand that the preliminary estimate for 1957 would be for another increase of about 2 percent or for a continuation of the trend in the last 3 or 4 years.

Mr. WHITTEN. We had an investigation a couple of years ago showing how much United States funds have been used in promoting foreign production, how many technicians we have had in foreign countries helping them to increase their production, and various other things. I think it well that the pertinent part of that report be included here. Whatever its value to foreign policy, whatever merit it may have judged by those who support it, quite definitely our aid has been a major factor in this foreign increase in production. I think the record should show it here. I personally, of course, have opposed that. I realize that there are arguments as to the necessity for it, but it has had a very detrimental effect on the competitive situation of our American farmer.

(The information is as follows:)

FOREIGN AID FUNDS USED TO ENCOURAGE AGRICULTURAL PRODUCTIONS

In 20 selected countries throughout the world, where during the past 5 years important increased production of one or more of the basic United States price-supported commodities has been reported, United States foreign aid funds obligated by the Foreign Operations Administration and predecessor agencies for the promotion of agriculture, totaled $984,159,436 from April 3, 1948, to March 31, 1955. In addition, approximately $710,800,000 in local counterpart funds, created by United States assistance activities in some of these countries, have been programed for the furtherance of agricultural production and processing.

The International Cooperation Administration reports total economic aid funds obligated worldwide from the beginning of the program to March 31, 1955, for imports of agricultural machinery, agricultural tractors, fertilizer, seeds for planting and pesticides, amount to $476,819,000. ICA also reports that 738 United States agricultural technicians, including administrative personnel for agricultural programs, were on duty in foreign countries on June 1, 1955.

In Turkey, where cotton, tobacco, corn, rice and wheat production show sizable increases, United States foreign aid funds for agriculture total approximately $66.9 million. In Iran, where cotton production in 1955–56 is expected to increase 220,000 bales over 1954–51, United States aid programs have obligated $47.3 million for the promotion of agriculture. India, which has reported the 1954–55 cotton crop as about 1,200,000 bales larger than 1950–51 and also substantial increases in corn, wheat, rice and flue-cured tobacco over the same period received $174.5 million in foreign aid for agriculture. In Greece, similar aid programs amount to $45.4 million and counterpart approved withdrawals for agriculture total $64.8 million. In the last 5 years Greece has raised much larger crops of cotton, wheat, corn and rice.

United States foreign aid to Latin America for agricultural development has been largely part of the technical cooperation program. Programs are carried out through cooperative service agencies called sevicios, jointly staffed, administered and financed by United States and the host government.

The projects and aid funds in Latin America have not been large when compared to Europe and Asia, but more funds and emphasis are indicated for the future. The principal activity to date has been the furnishing of agricultural,

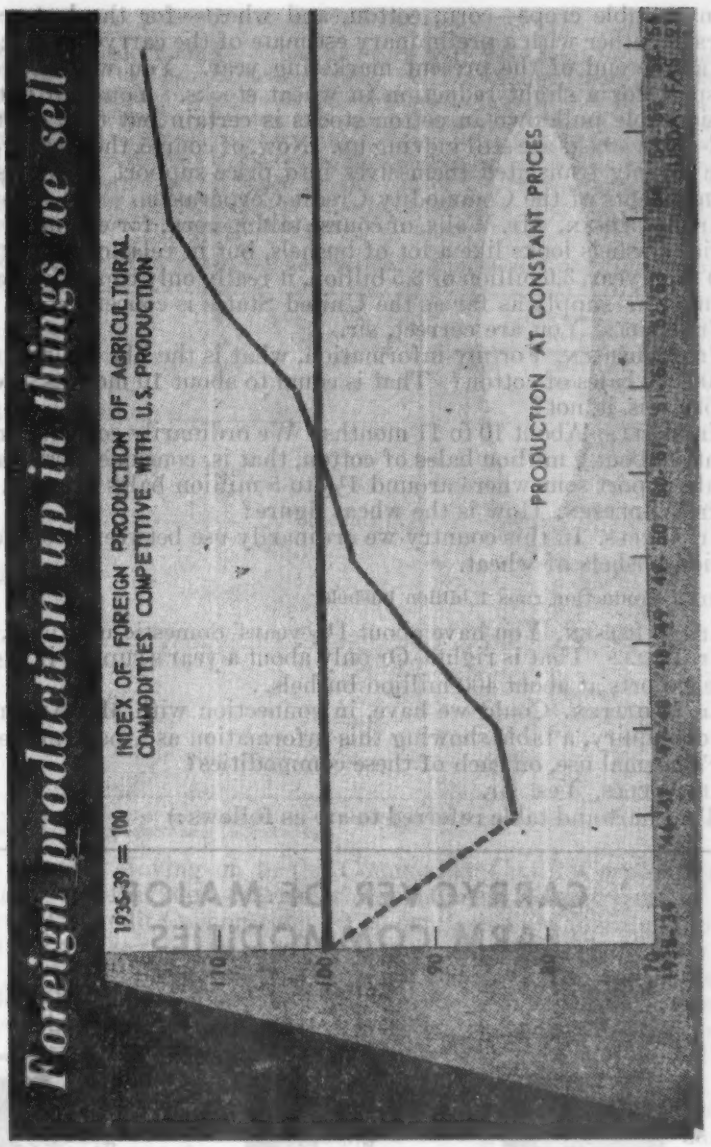
technical, and administrative personnel. ICA reports 240 United States technicians were in Latin American countries on June 1, 1955.

The Food and Agriculture Organization of the United Nations reports technical assistance programs in operation during 1954 in 55 countries located throughout the world. Total funds for the expended program of FAO during recent years have been approximately $25 milion of which the United States contributes about 55 percent. The various activities of this organization include the assignment of several cotton specialists to foreign countries to furnish advice on the production, marketing, and classification of cotton.

Mr. WELLS. The reason we are including this chart is to call your attention to the fact that despite our increased exports, foreign competition is still continuing at a high level.

Mr. WHITTEN. There again we might point out a factor that enters into this competitive sale of cotton. It started last January 1, 1956, I believe, with the United States moving back into world markets on a competitive basis. It came too late to affect foreign plantings of cotton in most of our competitive areas. I am of the belief that this year the world markets will see a considerable drop. My information is we are already seeing it.

(The chart referred to is as follows:)


Foreign production up in things we sell
INDEX OF FOREIGN PRODUCTION OF AGRICULTURAL COMMODITIES COMPETITIVE WITH U.S. PRODUCTION
1935-39 = 100
PRODUCTION AT CONSTANT PRICES

FOREIGN PRODUCTION UP IN THINGS WE SELL

Production of the kinds of agricultural commodities that the United States produces in commercial volume in foreign countries has increased by 37 percent since the end of World War II and in 1955–56 was about 15 percent higher than in 1935–39. A further small increase appears likely in 1956–57. Increased production of these commodities in foreign countries makes the world market for these commodities more competitive.

CARRYOVERS AND THE CCC

Mr. WELLS. Turning to the third part of the demand for farm commodities, this chart traces the history of carryovers in our three

main storable crops—corn, cotton, and wheat—for the last several years, together with a preliminary estimate of the carryover or carryout at the end of the present marketing year. You will notice the prospect for a slight reduction in wheat stocks. You will notice a considerable pulldown in cotton stocks is certain but that corn and feed-grain stocks are still moving up. Now, of course, these carryovers have largely translated themselves into price-support activities and commitments of the Commodity Credit Corporation.

Mr. ANDERSEN. Mr. Wells, of course taking corn, for example, 1,450 million bushels looks like a lot of bushels, but in relation to the total crop for 1 year, 3.6 billion or 3.5 billion, it really only constitutes about 4½ months' supply as far as the United States is concerned.

Mr. WELLS. You are correct, sir.

Mr. ANDERSEN. For my information, what is the like figure for the 12,300,000 bales of cotton? That is equal to about 10 months' use and exports; is it not?

Mr. WELLS. About 10 to 11 months. We ordinarily consume in this country about 9 million bales of cotton, that is, consume here, and we should export somewhere around 4½ to 5 million bales average.

Mr. ANDERSEN. How is the wheat figure?

Mr. WELLS. In this country we ordinarily use between 600 and 650 million bushels of wheat.

NOTE: Production runs 1 billion bushels.

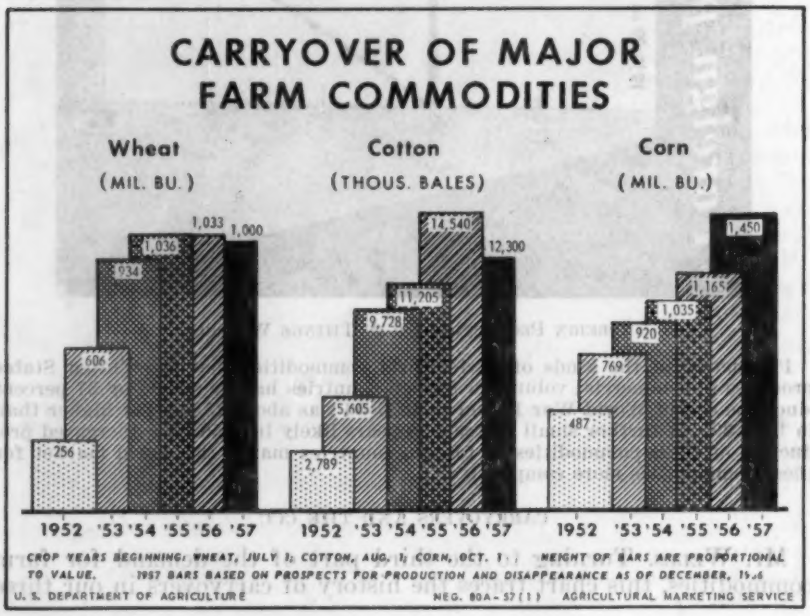
Mr. ANDERSEN. You have about 1½ years' domestic use there.

Mr. WELLS. That is right. Or only about a year's supply if we estimate exports at about 400 million bushels.

Mr. WHITTEN. Could we have, in connection with Mr. Andersen's line of inquiry, a table showing this information as a percentage of a year's normal use, on each of these commodities?

Mr. WELLS. Yes, sir.

(The chart and table referred to are as follows:)



CARRYOVER OF MAJOR FARM COMMODITIES

Carryover stocks of wheat, cotton, and corn were near or at record levels at the end of the 1955–56 marketing years. Wheat disappearance in 1955–56 slightly exceeded production, bringing about a slight reduction in stocks, the first since 1952. However, cotton and corn production continued to exceed disappearance, and carryover stocks of these commodities in 1956 were highest on record. As shown by the black bars on the above chart, reductions in carryovers of wheat and cotton are expected by the end of the current marketing year, mainly because of the high level of exports in prospect. But the big 1956 corn crop, second largest on record, will exceed disappearance.

Wheat, cotton, and corn carryover as percentage of production and disappearance

Year and month	Carryover actual	Carryover as percentage of 1954–56 average production	Carryover as percentage of 1954–56 average disappearance [1]
	Wheat		
July 1—	*Million bushels*	*Percent*	*Percent*
1956	1,033	106	110
1957 [1]	1,000	103	106
	Corn		
Oct. 1—			
1956	1,165	36	38
1957 [1]	1,450	45	47
	Cotton		
Aug. 1—	*1,000 bales*		
1956	14,540	105	111
1957 [1]	12,300	88	94

[1] Disappearance for 1956–57 marketing year and carryover at the beginning of 1957 marketing year estimated on the basis of prospects as of December 1956.

Mr. WELLS. Moving on to the Commodity Credit Corporation, I have included this next chart to show financial commitments of the Commodity Credit Corporation. You gentlemen are familiar enough with it to realize that the current commitment for commodities is not much above $8 billion, but by the time you take losses not yet reimbursed and various other financing authorities which are assessed against the Commodity Credit Corporation we have a total commitment somewhere close to $12 billion out of the current $14.5 billion borrowing authority.

Mr. Chairman, that largely completes my analysis of the factors affecting farm prices. There are also 3 or 4 general interest charts which I have included.

COMMITMENTS OF CCC

Mr. WHITTEN. The Commodity Credit Corporation will come up later, but I think it well for a summary table of CCC commodity commitments to be included here.

Mr. ANDERSEN. I might ask for the record that we have such a table inserted here.

Mr. VURSELL. Might I inquire as to what those letters are down at the bottom above the years?

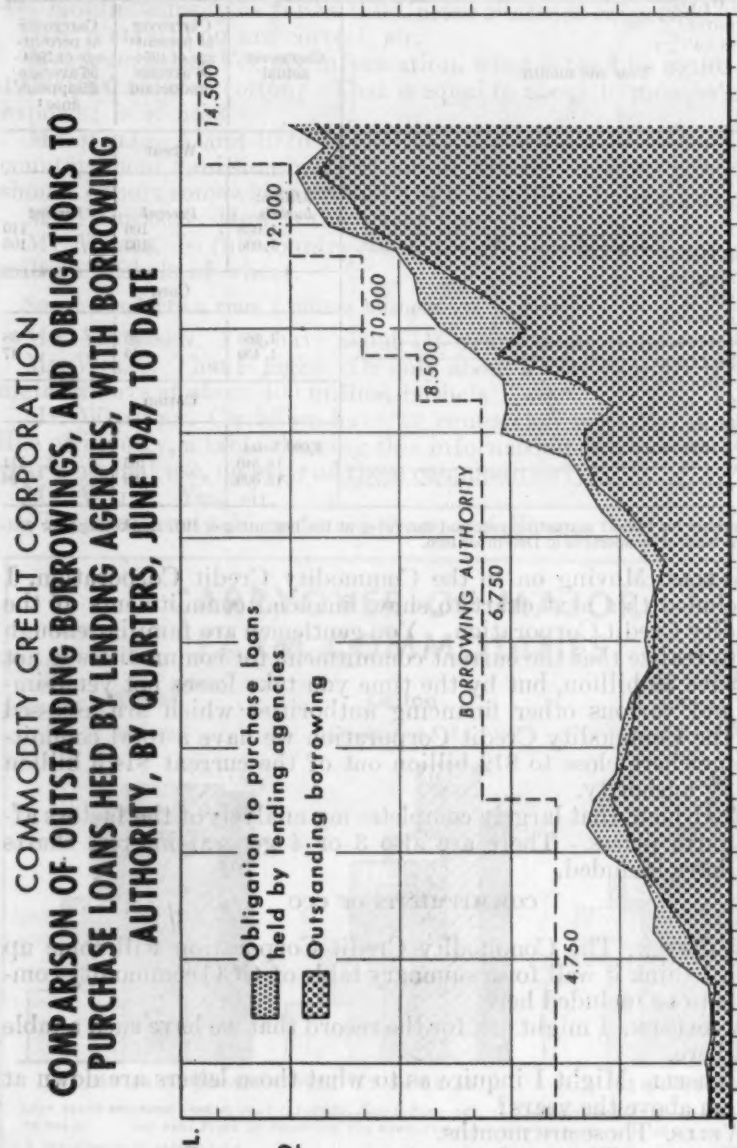
Mr. WELLS. Those are months.

Mr. WHITTEN. They are by quarters.

(The charts and table referred to are as follows:)

COMMODITY CREDIT CORPORATION COMPARISON OF OUTSTANDING BORROWINGS, AND OBLIGATIONS TO PURCHASE LOANS HELD BY LENDING AGENCIES, WITH BORROWING AUTHORITY, BY QUARTERS, JUNE 1947 TO DATE

After declining from a pre-Korean peak of $3.9 billion in March 1950 to $2 billion in June 1952, Commodity Credit Corporation outstanding borrowings and obligations to purchase loans have increased steadily. As of November 30, 1956, the total was $12 billion. About $8 billion or two-thirds of this total was accounted for by commodity loans and inventories. The balance of the funds in use cover losses and operating costs for other programs for which the CCC has not as yet been reimbursed. CCC borrowing authority was increased to $14.5 billion on August 1, 1956.


COMMODITY CREDIT CORPORATION
COMPARISON OF OUTSTANDING BORROWINGS, AND OBLIGATIONS TO PURCHASE LOANS HELD BY LENDING AGENCIES, WITH BORROWING AUTHORITY, BY QUARTERS, JUNE 1947 TO DATE
$ BIL.
12
9
6
3
0
Obligation to purchase loans held by lending agencies
Outstanding borrowing
BORROWING AUTHORITY
14.500
12.000
10.000
8.500
6.750
4.750
J S D M J S D M J S D M J S D M J S D M J S D M J S D M J S D M J S D
1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957
* INCLUDES DATA THROUGH NOVEMBER 1956

STATUS OF CCC PRICE-SUPPORT PROGRAMS AS OF DECEMBER 31, 1956

The United States Department of Agriculture reported today that as of December 31, 1956, the investment of the Commodity Credit Corporation in price-support programs amounted to $8,211,018,000—made up of loans outstanding of $2,319,430,000 (including $786,513,535 of loans financed by lending agencies), and the cost value of inventories, $5,891,588,000. As of December 31, 1955, the investment was $8,666,309,000 of which loans outstanding amounted to $2,584,129,000 and inventories $6,082,180,000.

Price-support operations in four commodities accounted for the bulk of the December 31, 1956, loan total as follows:

Tobacco, 1,075,659,696 pounds	$673,554,279
Cotton, upland, 3,603,521 bales	577,919,265
Wheat, 198,845,297 bushels	399,413,302
Corn, 215,410,260 bushels	321,709,481
Other	346,833,846
Total	2,319,430,173

(Included under "others" were loans on extra long staple cotton, honey, soybeans, barley, dry edible beans, flaxseed, grain sorghum, oats, rice, tung oil, rosin, rye, and peanuts, the largest being $102,341,231 on soybeans.)

Major items in the inventory of CCC as of December 31, were as follows:

Wheat, 840,184,362 bushels	$2,294,039,368
Corn, 984,278,214 bushels	1,723,841,973
Cotton, upland, 6,659,758 bales	1,145,792,307
Strategic materials	241,968,976
Rice, rough and milled, 11,877,733 hundredweight	118,124,561
Cheese, 234,022,441 pounds	89,117,003
Grain sorghum, 33,836,613 hundredweight	77,045,643
Barley, 40,921,169 bushels	50,516,677
Wool, 73,243,703 pounds	48,503,461
Oats, 33,548,369 bushels	28,456,819
Dried milk, 123,264,557 pounds	21,184,022
Rosin, 267,426,268 pounds	20,782,703
Other	32,214,409
Total	5,891,587,922

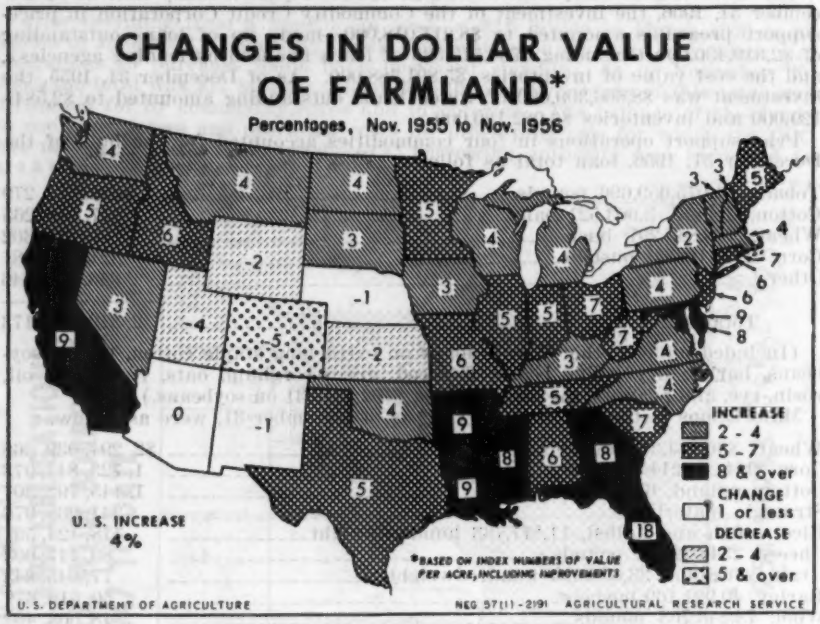
LAND VALUES

Mr. WELLS. The next chart, Mr. Chairman, I believe has already been discussed by Mr. Sherman Johnson, appearing before you in the Agricultural Research Administration.

Mr. WHITTEN. I would like for the chart to be included at this point in the record.

Mr. WELLS. It shows the change in land values during the last year. The preliminary estimate for November is 4 percent above a year ago. I believe there was included some discussion of it.

(The chart referred to is as follows:)



CHANGES IN DOLLAR VALUE OF FARMLAND

The average value of farmland per acre increased 4 percent from November 1955 to November 1956. The 18-percent increase in Florida was the largest among the States, while Georgia, Mississippi, Arkansas, California, Maryland, and Delaware showed gains of 8 or 9 percent. Average values were 1 to 5 percent lower in 6 States— Colorado, Utah, Wyoming, Kansas, New Mexico, and Nebraska while Arizona showed no change.

Mr. MARSHALL. Mr. Chairman, when Dr. Johnson was before us he furnished us information to show us there were only three States in the United States that were below the peak land values of the twenties. I think that was interesting, and I think it is pertinent to call attention to that at this time.

REGIONAL TRENDS IN FARM INCOME

Mr. WELLS. The next chart tries to break our realized net income of farm operators down from 1949 to date, by regions. As you people know, several years ago we started work so that now we are turning out each year State estimates of both gross and net farm income. This breaks down the net-income estimates as far as I think I can do on a readable chart. We actually have figures for each State, and I thought it would be interesting in connection with the land values to have a look at what has been happening to farm income by regions. We show net realized income, both total and per farm. You will note, Mr. Andersen, that the West North Central States last year, 1956, according to our preliminary estimates, have slightly lower incomes than they had the preceding year, both total and per farm, whereas in almost every other region——

Mr. ANDERSEN. That is the lowest section in the United States, is it not, Mr. Wells?

Mr. WELLS. This simply measures in index numbers, Mr. Andersen, income per farmer and total for all farms. Farm incomes average considerably higher in the North Central States than in some other regions, but the trend is what this measures and in terms of percent change, 1955 to 1956, you are right.

(The chart referred to is as follows:)

REALIZED NET INCOME OF FARM OPERATORS

Regional differences in the changes in realized net income of farm operators since 1949 are illustrated by this chart. Realized net income of farm operators for the United States in 1956 was about 5 percent higher than in 1955 but about 13 percent below 1949. The largest decline since 1949, 27 percent, occurred in the mountain region. In the Pacific and South Atlantic regions income was higher than 1949 by 22 and 7 percent, respectively. The per farm figures for 1956 are higher than 1949 in 4 of the 7 regions. The three regions in which they are lower are west north central, south central, and mountain.

Mr. WHITTEN. Those black and irregular lines, what did you say they represented?

Mr. WELLS. The heavy black line shows net realized farm income, total net realized farm income, for the region. The dotted line shows it per farm.

Mr. Chairman, last year there was a slight upturn, I believe, in every region except the west north central region.

Mr. WHITTEN. But that is misleading if that farm investment has increased. If the farmer's investment has increased 125 percent by buying more land, but his income has gone up only 100 percent, his net position is worse than before. Do you not think you should add to these tables such information as might keep from giving an erroneous picture?

Mr. WELLS. We have on this chart what we now have, Mr. Chairman, by States. We can develop either some major type of farm estimates or an estimated investment per farm by regions. We will do that.

(The table referred to is as follows:)

Total farm capital, commercial family operated farms, by type and location, Jan. 1, 1949–55

Type of farm and location	1949	1955	Type of farm and location	1949	1955
Dairy farms:			Spring wheat farms (Northern Plains):		
Central Northeast	$24,000	$26,000	Wheat-small grain-livestock	34,140	41,590
Eastern Wisconsin	29,980	33,070	Wheat-corn-livestock	33,830	42,010
Western Wisconsin	20,250	21,890	Wheat-roughage-livestock	30,590	39,530
Corn Belt farms:			Winter wheat farms:		
Hog-dairy	34,740	43,530	Southern Plains	59,613	75,450
Hog-beef raising	27,980	34,790	Wheat-pea (Washington and Idaho)	112,350	146,510
Hog-beef fattening	50,360	60,960	Sheep ranches:		
Cash grain	67,200	89,300	Northern Plains	74,310	82,240
Cotton farms:			Southwest	136,630	177,880
Southern Piedmont	11,850	15,510	Cattle ranches:		
Black Prairie, Tex	18,020	26,410	Northern Plains	64,050	68,950
High Plains, Tex. (nonirrigated)	32,000	37,470	Intermountain region	65,240	64,760
High Plains, Tex (irrigated)	55,540	86,900	Southwest	108,950	129,760
Delta:					
Small	6,710	9,860			
Large scale	106,650	152,980			

Data from Agricultural Research Service. Capital includes land and buildings, machinery and equipment, livestock and crops for sale, feed and seed.

FARM CAPITAL BY TYPE OF FARM AND LOCATION

Balance-sheet data on farm assets are not available on a State or regional basis. The Production Economics Research Branch, Agricultural Research Service, does prepare estimates of value of farm capital on January 1, as a part of their work in estimating costs and returns, commercial family operated farms, by type and location. Farm capital includes land and buildings, machinery and equipment, livestock and crops for sale, feed and seed.

The above table includes data on farm capital for a number of types of farms.

Mr. WHITTEN. A farmer might have bought another farm and be making more money on a gross basis, but he may have invested enough additional so that his net is less.

Mr. WELLS. On the first table, Mr. Chairman, I did show the value of the total productive farm assets as part of that picture, but you can measure income against that.

Mr. WHITTEN. In my area the land that shows a 3-percent return will sell at prices that would indicate a 10-percent return. Because of the depreciated dollar, a lot of people are hunting for some farm to put their money into. It is not based on farm income, but rather is based on this inflationary spiral that makes a lot of people want something they can pick up and feel with their hands.

Mr. WELLS. It is based on quite a few things which are difficult to explain. Look at California and Florida, where you have an expanding urban economy, which is undoubtedly building into land values.

Mr. ANDRESEN. Mr. Chairman, I would like to ask Mr. Wells why he does not have that chart based upon the proportional share of parity which those various regions receive. We have an 83-percent parity return nationwide; do we not, Mr. Wells?

Mr. WELLS. About that; 83 percent for calendar year 1956, 82 percent for January 1957.

Mr. ANDERSEN. Now, as far as I understand it, my region does not enjoy any such 83 percent. Speaking about the west north central region, that particular region is at the low part of the heap, so to speak, is it not, if you express it in a parity figure?

Mr. WELLS. Well, of course, Mr. Andersen, our parity figures are averages for all farmers in the United States, and when we break them down by specific grades of commodity or specific geographical locations we do not call them parity because they change too often. But it is quite true that the north central area is the great surplus-producing area, and in periods of low prices and a buyer's market the differential tends to run against you.

Mr. ANDERSEN. That is where I differ, Mr. Chairman, basically, with our good Secretary. Ever since Mr. Benson came into office in January 1953—and this is on the record—I remember the first discussion that I had with him on the record, at the time, was in relation to his speech in Denver a few days before he first appeared before this subcommittee. At that time he was agreeing with the cattlemen out in the Denver area to the effect that feed grains were too high, that the cure for their ills was to have a lower feed grain level. That sort of psychology from then to now has resulted in giving to your and my area, Mr. Marshall, the lowest status, because we are the main feed grain producing area in America. We today have the lowest status in the Nation as far as our agricultural economy is concerned.

Mr. WHITTEN. Following that up, Mr. Andersen, if I might, the fallacy of his argument is that the price the farmer receives for his cattle, his hogs, his poultry, and the other things is going to eventually seek the level of the feed. And cheap feed leads to cheap prices.

Mr. ANDERSEN. I might say the Secretary has finally admitted that in an official communication put out from the Department just about a month ago. I believe I have in my office a quotation from him directly to the effect that there is no question but what cheap feed means cheap livestock in the final analysis. To me as a man who has farmed

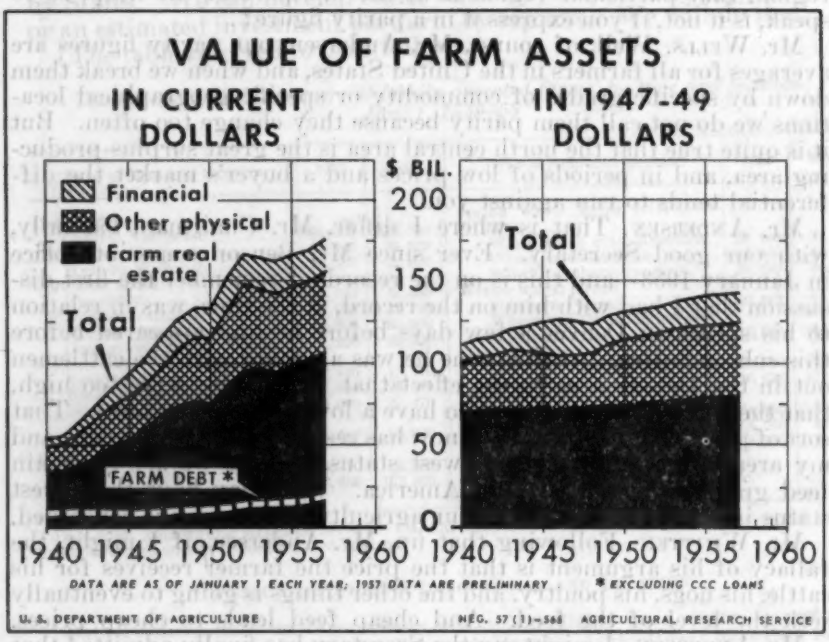
for a good many years and practically thought of nothing else in his career, anybody who cannot connect the two together is absolutely mistaken, and I am glad to see that Mr. Benson has finally decided that that is the case. But basically that is the reason for us having today about a 70 percent parity index through that region, Mr. Wells, where we by all rights should be entitled to what I call at least an even break with the rest of our agricultural economy, let alone the fact that our agricultural economy is 17 percent down below what it should be, if this term parity means a thing.

Mr. MARSHALL. I would like to say that I am very pleased to note that change of attitude on the part of the Secretary, and that I hope that the actions that he follows in an administrative way will show that he is following the practice of what his words indicate by saying that livestock prices follow grain prices.

VALUE OF FARM ASSETS

Mr. WELLS. Mr. Chairman, the next chart is one which I used several times. It shows the value of farm assets in current dollars and in constant dollars for the last several years. Of course, with the increase in land values which took place during the last year, there is another increase in total value of farm assets.

(The chart referred to is as follows:)



VALUE OF FARM ASSETS

A rise in the value of farm real estate was the major cause of the increase in the value of the total assets of agriculture from $170.2 billion on January 1, 1956, to $176 billion (preliminary estimate) at the beginning of 1957. The total assets of January 1, 1957, included: Real estate, $106.4 billion, up 3.6 percent from a year earlier; nonreal estate, $49.2 billion, up 4 percent; and financial

assets, $20.4 billion, up 1 percent. The increase in assets during 1956 was accompanied by a 6½ percent rise in farm debts, excluding loans held and guaranteed by the Commodity Credit Corporation. Farm real estate debt accounted for the major part of this increase.

Mr. HORAN. Mr. Chairman, could I ask a question? The Bureau of Internal Revenue will grant you depreciation on your physical assets, but they will not consider any depreciation on your farm real estate. What is the reason for that?

Mr. WELLS. I do not know, Mr. Horan. I have never worked with Internal Revenue or been called into any of the discussions of that kind.

Mr. HORAN. I do not want to belabor the thing here now, but I think that our farmers are probably entitled to some consideration on a depreciation basis regarding their farm real estate values, at least some consideration for the moneys or the effort they have to expend in order to keep their farmlands from depreciating. It is a field that I think needs further exploration.

Mr. VURSELL. Is it not a fact that they have an accelerated increase in their tax exemption on all machines and farm buildings and things of that kind?

Mr. HORAN. Not an accelerated one.

Mr. ANDERSEN. Grain storage construction.

Mr. WELLS. We did during World War II and following the Korean crisis have accelerated depreciation on many business facilities related to defense, and there was finally included in that grain storage facilities on the farm.

Mr. WHITTEN. Mr. Wells, it is quite apparent that we should ask you to go over this table on farm assets and give us a comparative table based on constant dollars. For instance, farm income in 1946 taken in current dollars was $15 billion, in 1947 it was $17 billion, in 1948 it was $15 billion, and it was $11.836 billion in 1956. From this it could be taken that the farmer is not really so bad off. But if you were to express the 1956 figure in terms of your 1947–49 dollars the farm income would be way down.

Mr. WELLS. Mr. Chairman, I will work up a supplementary table or chart which shows investment per farm or per farmworker, and I will also supply a supplementary income purchasing power table for this record.

Mr. WHITTEN. I was in China during the war when they quit printing $10 bills because it cost more to print them than they would buy. Quite definitely saying the farmer's income is not so bad and comparing the cheap dollar value with an average dollar in 1947–49 leads to an erroneous conclusion.

Mr. WELLS. I will prepare a table in constant dollar values to go along with the current dollar estimates covering per farm and per-farm person income as well as the national total.

(The matter referred to may be found on p. 757.)

Mr. VURSELL. The figure you gave of 11 billion and something of farmers' income, does that include anything that the farmer gets in addition by way of soil conservation and all of those things that we write into this budget?

Mr. WELLS. Yes; it includes, Mr. Vursell, all Government payments which he gets directly from the Government as a farmer. It does not include nonfarm income earned by people who are part of

farm families and live on the farms. That is an additional figure, but it does cover his total operation as a farm businessman.

Mr. ANDERSEN. Mr. Wells, I think the chairman has brought out a very important point, and that is that if we were to express the present net income of the farm operators in the same quality of dollars we had in 1947 you would have about an $8 billion figure there instead of the $11,836 million, would you not?

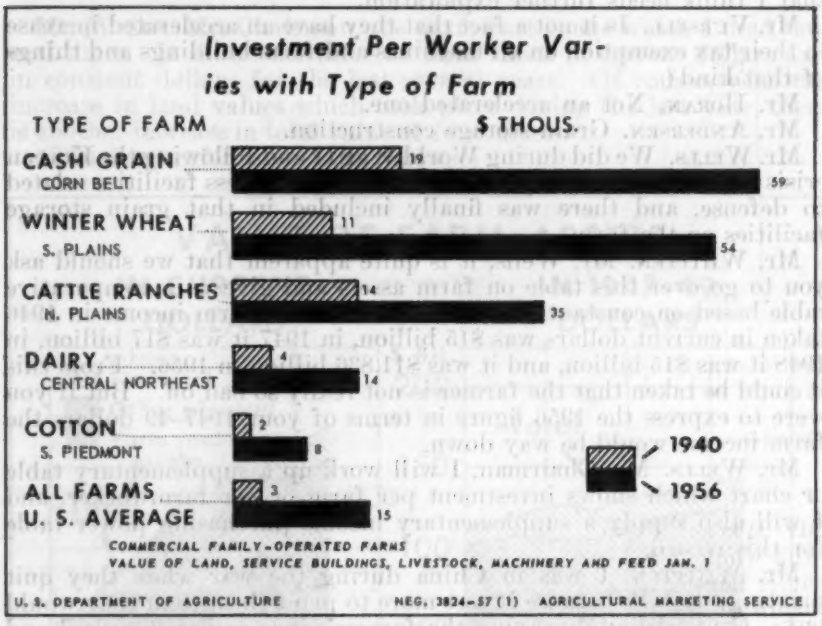
Mr. WELLS. I do not know what the exact figure would be. It will make a substantial difference.

Mr. ANDERSEN. As I remember, in 1946 I paid $1,960 for a 3-bottom John Deere tractor, and today my partner and I have to pay about $3,400 to get the same outfit. That would illustrate that the value of the dollar in buying that very same tractor has fallen about 40 percent.

Mr. WELLS. It is very substantial.

Mr. ANDERSEN. Thirty percent at least.

(The chart and tables referred to follow:)



INVESTMENT PER WORKER VARIES WITH TYPE OF FARM

Increasing mechanization and the increasing value of farm assets since 1940 have meant major increases in the investment per farm and per farmworker. The above chart shows, for a series of typical United States farms and for all farms as an average, the increase in investment per farmworker, 1956, compared with 1940. This increasing investment per farmworker, $15,000 in 1956, as compared with $3,000 in 1955 as a United States average, is one of the important factors to be considered in comparing the adequacy or meaning of changes in farm income, either per farm, per farmworker, or total.

Realized net income of farm operators, 1939 and 1946–56

Year	Realized net income	Prices paid for family living (1947–49=100)	Realized net income, 1947–49 dollars
	Millions	*Percent*	*Millions*
1939	$4,394	49.2	$8,931
1946	15,000	82.9	18,094
1947	17,191	97.3	17,668
1948	15,943	103.0	15,479
1949	13,673	99.7	13,914
1950	12,857	100.9	12,742
1951	14,802	110.0	13,456
1952	14,256	111.2	12,820
1953	13,880	110.8	12,527
1954	12,021	112.4	10,695
1955	11,340	112.0	10,125
1956	11,836	114.1	10,373

Purchasing power of farm income

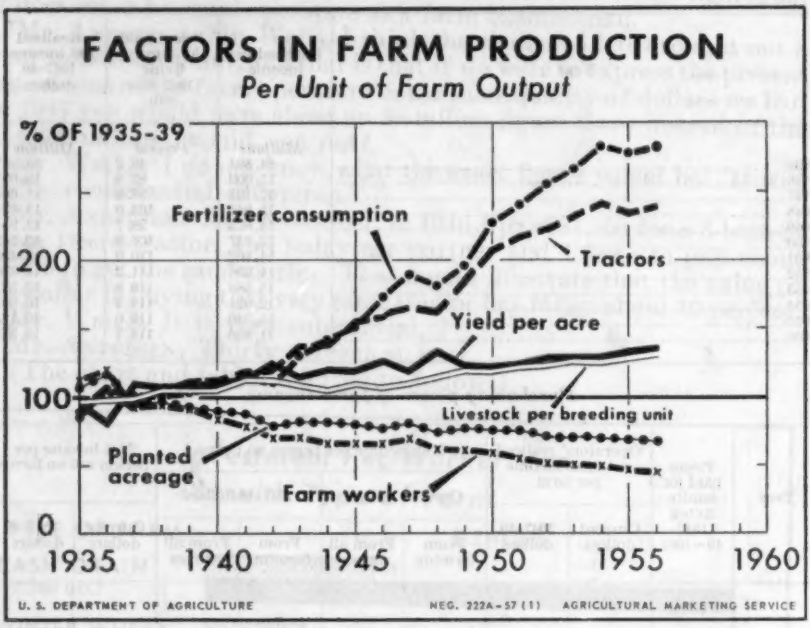
Year	Prices paid for family living (1947–49=100)	Operators' realized net farm income per farm		Net income per person on farms				Net income per person not on farms	
				Current dollars		1947–49 dollars			
		Current dollars	1947–49 dollars	From farming	From all sources	From farming	From all sources	Current dollars	1947–49 dollars [1]
	Percent								
1939	49.2	$682	$1,387	$168	$249	$341	$507	$626	$1,054
1946	82.9	2,331	3,053	631	793	761	957	1,294	1,552
1947	97.3	2,927	3,008	641	822	659	844	1,393	1,459
1948	103.0	2,747	2,667	761	958	739	930	1,526	1,484
1949	99.7	2,389	2,396	564	765	566	769	1,500	1,473
1950	100.9	2,276	2,256	617	828	611	821	1,575	1,532
1951	110.0	2,682	2,438	745	977	677	888	1,745	1,572
1952	111.2	2,660	2,392	702	953	631	857	1,833	1,615
1953	110.8	2,649	2,391	665	930	600	839	1,875	1,639
1954	112.4	2,357	2,097	650	911	578	810	1,828	1,592
1955	112.0	2,268	2,025	606	881	541	787	1,935	1,690
1956	114.1	2,415	2,117	599	889	525	779	2,010	1,730

[1] Current-dollar series divided by Bureau of Labor Statistics index of consumer prices.

TECHNOLOGICAL TRENDS

Mr. WELLS. These last two charts have to do with general trends in the whole farm economy. Here I have simply tried to indicate what is happening through the use of fertilizers and tractors as a measure of the increasing importance of chemical, mechanical, biological, and other goods in farming as compared to land and labor. I call attention to the steady increase in the use of tractors and fertilizers over the last several years, the decrease in relative amount of land and labor going into agricultural production, and the steady increase in crop yields per acre and production of animal products per animal unit.

(The chart referred to is as follows:)



FACTORS IN FARM PRODUCTION

Farmers are increasingly dependent upon machinery, fertilizer, and other items purchased from off the farm in connection with current farm operations. In studying the above chart, attention is directed to (1) the 2 upper lines, which serve as typical measures of the rapid uptrend in the use of machinery and such items as fertilizer per unit of farm production since the beginning of World War II, (2) the 2 lower lines, which measure the steady downtrend in the use of farm labor and land per unit of farm production, and (3) the 2 center lines which indicate the increase in crop yields per acre and outturn of livestock products per breeding unit.

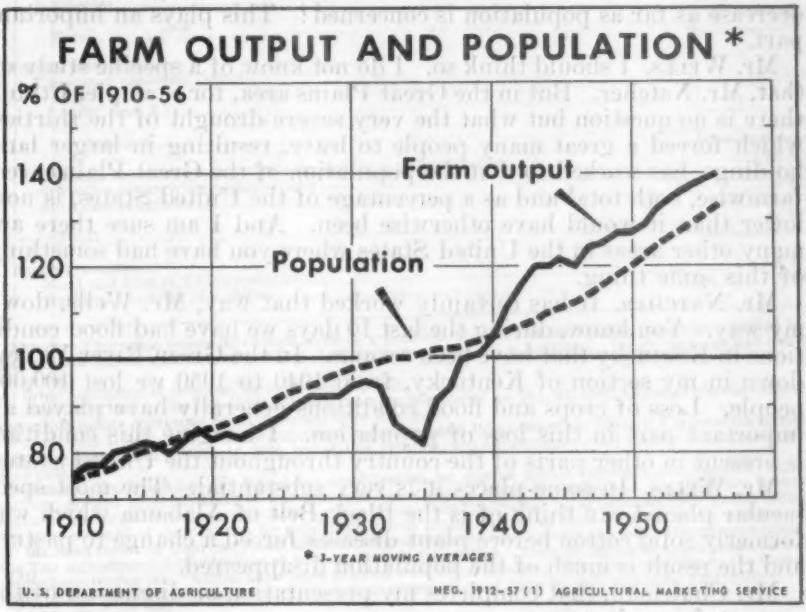
Mr. WHITTEN. According to a recent press release based on the Department's figures, the returns in 1956 per hour on the farm was 70.3 cents per hour, compared to a high in 1947 of 98.3 cents per hour. Going further, the Department figures show that in manufacturing, the average return per laborer is $1.98 per hour; bituminous coal mining, $2.79; building and construction, $2.79 per hour; class 1 railroads, $2.11; telephone, $1.86; wholesale trade, $2.01; retail trade, $1.57; laundries, $1.05. This means that the return for labor in agriculture runs all the way from about 25 percent of what they get in building and construction to about 67 percent of what they get in laundry work. I think those figures are quite enlightening as to why the farmers do have some problems.

FARM OUTPUT VS. POPULATION GROWTH, 1910–56

Mr. WELLS. The final chart, gentlemen, is simply the long-term growth chart showing the index of farm output from 1910 to date, and the increase in population over the same period in this country. I

call this to your attention because it is a fact that our population and demand for food is still growing, and as far as we can now tell it will into the foreseeable future. And our farm production is growing. And the problem, once again, is adjusting two rates of growth, rather than stopping growth.

(The chart referred to is as follows:)



FARM OUTPUT AND POPULATION

Farm output increased slightly in 1956, raising the total 14 percent above the 1947–49 average. Increasing livestock production has been mainly responsible for the record level of farm production in recent years. Livestock output has increased for 8 consecutive years, and the 1956 total exceeded the 1947–49 average by 23 percent. Production of crops last year only exceeded the 1947–49 average by 6 percent but this equaled the record first set in 1948 and reached again in 1955. The United States' population is continuing the fast rise begun after World War II, and since 1945 has increased at about the same rate as farm output.

Mr. HORAN. That is in terms of percentage, rather than actual per capita.

Mr. WELLS. Yes, that is taking the average from 1910 to 1955 as 100 and just tracing the growth in population, which is the greatest single demand factor for farm products, and the growth in farm output. Farm output moved ahead of population as we went into World War II and has stayed ahead. But we should not forget population and farm output are growing, and our problem is adjusting rates of growth rather than stopping growth.

Mr. MARSHALL. Mr. Wells, in the last chart what would be the farm population itself during the time we have had this terriffic farm output?

Mr. WELLS. The farm population in 1910 to 1914 was about 34 percent of total United States population and at the present time it is

not much over 13 percent (13.3 percent for April 1, 1956). In addition, the actual farm population has fallen from a little better than 32 million in 1922 to about 22 million at the present.

Mr. NATCHER. Mr. Wells, have you made any study at all to ascertain as to whether drought, nematode, or any other unusual conditions in a certain section of the United States has brought about more decrease as far as population is concerned? This plays an important part.

Mr. WELLS. I should think so. I do not know of a specific study on that, Mr. Natcher. But in the Great Plains area, for example, I think there is no question but what the very severe drought of the thirties, which forced a great many people to leave, resulting in larger land holdings, has worked so that the population of the Great Plains area, farmwise, both total and as a percentage of the United States, is now lower than it would have otherwise been. And I am sure there are many other areas in the United States where you have had something of this same thing.

Mr. NATCHER. It has certainly worked that way, Mr. Wells, down my way. You know, during the last 10 days we have had flood conditions in Kentucky that have been serious. In the Green River Valley, down in my section of Kentucky, from 1940 to 1950 we lost 100,000 people. Loss of crops and flood conditions generally have played an important part in this loss of population. I imagine this condition is present in other parts of the country throughout the United States.

Mr. WELLS. In some places it is very substantial. The most spectacular place I can think of is the Black Belt of Alabama which was formerly solid cotton before plant diseases forced a change to pasture and the result is much of the population disappeared.

Mr. Chairman, that completes my presentation or discussion of the current farm situation.

Mr. WHITTEN. Mr. Wells, I would like to say again that we always appreciate your appearance. I would like for you to know that we think these charts are excellent and very informative.

Mr. MARSHALL. Mr. Chairman, 3 years ago we had a chart which Mr. Wells put in, a table showing the various amounts of subsidies which were paid out on losses, price-support operations, and other Government operations. That table was a table that was interesting to quite a number of people. I wonder if that might not be brought up to date and placed in the record.

Mr. WHITTEN. We would be glad to have it.

(The table referred to is as follows:)

Comparison of CCC farm price-support costs with subsidies and emergency investment

Program	Amount
1. Losses under price-support program:	*Million*
Basics	$1,223
Nonbasics	2,783
Total	[1] 4,005
2. Federal programs for—	
Consumer subsidies (losses):	
CCC	[2] 2,102
DSC and RFC	[3] 2,143
Subtotal	4,245
Business reconversion payments (including tax amortization)	[4] 42,620
Subsidies to maritime organizations	[5] 509
Subsidies to airlines	[5] 353
Total	47,727
3. Federal investment in—	
Food and fiber (CCC inventories)	[6] 8,211
National stockpile of material	[7] 5,900

NOTES.—This table brings up-to-date so far as is possible, the data for the specific programs included in a similar table which appeared on p. 42, pt. I of the 1954 appropriation hearings. Totals may not add due to rounding.

[1] From beginning of program through Dec. 31, 1956.

[2] Since July 1941. The last CCC subsidy program was ended on Oct. 31, 1947, although claims, refunds, and adjustments continued to be processed after that date.

[3] Since July 1, 1943. All Defense Supplies Corporation and Reconstruction Finance Corporation subsidy programs were ended by Oct. 14, 1946, but claims, refunds, and adjustments continued to be processed after that date.

[4] Includes the following: (*a*) Rapid tax amortization for defense plants (through Jan. 23, 1957) $22,452 million; (*b*) cost of termination of war contracts (as of July 1, 1946) $6,800 million; (*c*) difference between cost and sale price of real property held by War Assets Administration (as of Sept. 30, 1949) $2,650 million; (*d*) gross amount of applications for relief from excess profits tax (as of June 30, 1948) $6,530 million; and (*e*) tax relief resulting from carryback allowance for anticipated losses under the quick refund provisions of the Tax Adjustment Act of 1945 (as of June 30, 1956) $4,188 million. Item (*d*) indicates applications for relief from excess-profits tax. Actual allowances granted were much smaller. The actual net loss to the Government on the 4.8 billions of claims which had been processed as of June 30, 1953 was some $262 million.

[5] Through fiscal 1956.

[6] As of Dec. 31, 1956.

[7] As of June 30, 1956.

Mr. WHITTEN. We would like, in addition to the charts you have shown, to have you bring forward the various other charts which you have normally put in the record.

Mr. WELLS. There are a number of tables, Mr. Chairman, although I had proposed this year not to go into what Commodity Credit is or is not offering for sale at competitive prices. But I do have some other tables and there are one or two other charts which might be included.

Mr. WHITTEN. In view of the change in policy which finally came about, I don't know that we need the long tables about what the Commodity Credit Corporation is offering. But I believe we might have a table in there listing anything they are not offering competitive.

Mr. WELLS. I don't know whether there is any such commodity.

Mr. WHITTEN. If there are, you might show the quantities. In some minor cases it might be needed as a reserve. I can clearly see that.

(The material referred to is as follows:)

COMMODITY CREDIT CORPORATION

Quantity and inventory value of price-support commodities on hand as of Dec. 31, 1956, which have not been offered for sale in world trade on a competitive basis during the period July 1 through Dec. 31, 1956

Commodity	Unit of measure	Quantity	Value
Cornmeal	Pound	21,753,000	[1] $1,139,000
Wheat flour	do	10,636,000	[1] 685,000
Butter oil	do	131,000	[1] 104,000
Cottonseed oil, refined	do	33,000	[2] 6,000
Flaxseed	Bushel	10,000	[2] 34,000
Linseed oil	Pound	41,000	[2] 6,000
Rosin	do	267,426,000	[4] 20,783,000
Turpentine	Gallon	719,000	[5] 428,000
Seeds, hay and pasture	Pound	76,000	[3] 19,000
Soybeans	Bushel	17,000	[3] 42,000
Total			23,246,000

[1] Committed for disposition. Corn, wheat, and butter are not converted into products until commitments have been received for their sale or donation in processed form.

[2] Committed for disposition. Represents residual balances in accounts due to lag in recording financial transactions.

[3] Consists of insignificant stocks at scattered locations which are anticipated to be sold domestically without impairing the price-support program. Previously these commodities were available for export sale on a competitive bid basis until stocks dwindled so low that this method of selling became impractical.

[4] This commodity was offered for sale on a competitive bid basis for export during the period January through March 1956 and will again be offered for the first 3 months in 1957. These are the slack production months when the gap between production and requirements is greatest. During the remainder of the year the commodity was available for domestic and export sale at announced prices.

[5] The entire stock constitutes less than a week's supply and the expected deficit between production and requirements during the next few months is likely to result in liquidation of remaining stocks. Quantities in inventory have been available for domestic and export sale at announced prices and were reduced 69 percent during the period from July 1 to Dec. 31, 1956.

Mr. WHITTEN. Any further questions?

Mr. VURSELL. I would like to ask this. I would like to ask your opinion as to what is the outlook for agriculture, in your opinion, for the next 4 or 5 years in the future. The members of this committee realize that agriculture has not shared fully in the economy of the country, in the prosperity of the country. And I for one would just like to know what you think the future outlook is as of the next 4 or 5 years. I say 4 or 5 years, because if it should be good for the next 4 or 5 years, I think we can take care of it. But I would hate to see a setback in it.

Mr. WELLS. Well, Mr. Vursell, I don't think any of us foresee the future very perfectly. My own personal opinion is that agriculture has some continuing troubles ahead of it for the next 3 or 4 or 5 years. That is to say that probable farm production, barring widespread drought, and the way agricultural prices are determined as against the way other prices are determined—you have already called attention to this yourself—are such that agriculture faces some real pricing and marketing problems—problems that are going to stay with us for some time.

Having said I think our agriculture problems will continue with us for 2, 3 or 4 years, let me say I would expect some improvement in the agriculture situation. Also I would expect a great many people to in fact continue to find real opportunities in agriculture. After all, there are several million farms. There are a great many young people who are going to be farm operators in the future. There is no question in my mind but what many of those young people are going to find their best economic opportunities on farms; and many of today's farmers of course are going to do very well in the next 3, 4, or 5 years.

But looking at agriculture as a total, looking at our surplus problems, looking at our marketing situation, I would say to you we may well continue to have surplus trouble for several years ahead, unless we run into the kind of drought I hope we do not see, or unless we find ourselves involved in war, which would be of no profit to any of us.

Mr. VURSELL. Thank you, Mr. Chairman.

THURSDAY, FEBRUARY 7, 1957.

AGRICULTURAL MARKETING SERVICE

WITNESSES

EARL L. BUTZ, ASSISTANT SECRETARY OF AGRICULTURE
O. V. WELLS, ADMINISTRATOR, AGRICULTURAL MARKETING SERVICE
OMER W. HERRMANN, DEPUTY ADMINISTRATOR, MARKETING RESEARCH AND STATISTICS
ROY W. LENNARTSON, DEPUTY ADMINISTRATOR, MARKETING SERVICES
ARTHUR J. HOLMAAS, DIRECTOR, BUDGET AND FINANCE DIVISION
HARRY C. TRELOGAN, DIRECTOR, MARKETING RESEARCH DIVISION
S. R. NEWELL, DIRECTOR, AGRICULTURAL ESTIMATES DIVISION
MARTIN G. GARBER, DIRECTOR, FOOD DISTRIBUTION DIVISION
W. C. CROW, LIAISON OFFICER, COMMISSIONERS OF AGRICULTURE
JOHN J. KAMINSKI, CHIEF, BUDGET BRANCH
D. BARTON DeLOACH, CHIEF, MARKET ORGANIZATION AND COSTS BRANCH, MARKETING RESEARCH DIVISION
JOSEPH C. WHEELER, DIRECTOR OF FINANCE AND BUDGET OFFICER, DEPARTMENT OF AGRICULTURE

Mr. WHITTEN. We come next to the Agricultural Marketing Service. We would like to have pages 1 to 4 of the Justification, volume 2, inserted in the record at this point.

(The material referred to is as follows:)

AGRICULTURAL MARKETING SERVICE

PURPOSE STATEMENT

The Agricultural Marketing Service was established by the Secretary of Agriculture on November 2, 1953 under the authority of section 161 Revised Statutes (5 U. S. C. 22), Reorganization Plan No. 2 of 1953, and other authorities. The Service is organized to aid in advancing the orderly and efficient marketing and the effective distribution of products from the Nation's farms. The marketing and distribution functions of the Department are centered in this Service. The Administrator of the Service is also responsible for the coordination of all statistical work of the Department.

The Agricultural Marketing Service carries on the following principal programs:

1. Research and agricultural estimates.

These functions include—

(*a*) marketing research directed toward the development of practical answers to problems encountered in moving agricultural products from the farm to the consumer, including expanded outlets for new and established

products, reduced costs, improved product quality, and improved market equipment and facilities;

(*b*) analyses of the economic situation and outlook for farm products, including factors affecting price, supply, and consumption; and statistical studies on farm population, costs, prices, and income in their relation to agriculture including causes for variations and trends;

(*c*) crop and livestock estimates including acreages, yields, production, stocks, values, and utilization of farm crops; numbers, production, value, and utilization of livestock and livestock products and such related data on prices received and paid by farmers.

2. Marketing Services

These activities contribute to the efficient and orderly marketing of agricultural commodities through—

(*a*) the Market News Service which provides timely and reliable market reports on all major agricultural commodities to help farmers determine when and where and at what price to sell their products.

(*b*) Inspection, classing, grading and standardization services to develop standards of quality for agricultural commodities and to use them in providing an impartial inspection, classing, and grading service.

(*c*) Freight rate service to assist in obtaining and maintaining equitable transportation rates and services on farm supplies and products.

(*d*) Regulatory activities covering administration of laws aimed at protecting farmers and others from financial loss resulting from deceptive, careless, and fraudulent marketing practices.

3. Payments to States

The Service administers the matched fund program for marketing activities carried out through cooperative arrangements by State Departments of Agriculture, Bureaus of Markets, and similar State agencies.

4. School-lunch program

Federal assistance is provided to States and Territories for use in serving nutritious midday meals to children attending schools of high school grades or under in order to improve the health and well-being of the Nation's children, and broaden the market for agricultural food commodities.

5. Removal of surplus agricultural commodities and marketing agreements and orders.

These activities directly or indirectly tend to maintain prices received by farmers and establish and maintain orderly marketing conditions through—

(*a*) removing from the market surplus agricultural commodities through purchase and donation to eligible recipients, export and diversion payments, and distribution of Commodity Credit Corporation donated commodities to eligible outlets authorized under section 416;

(*b*) administration of marketing agreements and orders;

(*c*) cooperation with the food trade and others to encourage greater consumption of abundant foods.

6. Work performed for others

The Agricultural Marketing Service has also been delegated authority for, or is called upon, to perform other service for Federal, State, and private agencies, on a reimbursable or advance payment basis. These include among others the special school milk program, food planning for defense emergency conditions, and administration of section 708 of title VII of the National Wool Act of 1954.

The Agricultural Marketing Service maintains its central office in Washington, D. C., but a large part of the program activity is carried on through State offices on agricultural estimates and functional field branch offices of the several Washington commodity and functional divisions located in over 225 cities and towns in the United States, Hawaii, Puerto Rico, and Cuba.

On November 30, 1956 (excluding the offices of the Milk Marketing Administrators) there were approximately 7,000 full-time employees, distributed about 1,800 in the District of Columbia metropolitan area and the remainder in the field. In addition there were about 1,200 part-time and intermittent employees primarily in the field. A substantial portion of Agricultural Marketing Service employment is financed through revenue from fees, charges, or other assessments and through joint financing or other arrangements with States and private cooperators.

	Appropriated, 1957	Budget estimates, 1958
Appropriated funds:		
Marketing research and agricultural estimates	$13,437,000	$15,482,500
Marketing services	13,020,000	15,186,000
Payments to States, Territories, and possessions	1,160,000	1,260,000
School-lunch program	100,000,000	100,000,000
Total appropriated funds (excluding permanent appropriations)	127,617,000	131,928,500

Summary of appropriations, 1957 and estimates, 1958

Appropriation item	Total estimated available 1957	Budget estimates, 1958	Increase (+) or decrease (−)
Marketing research and service:			
Marketing research and agricultural estimates	$13,437,000	$15,482,500	+$2,045,500
Marketing services	13,020,000	15,186,000	+2,166,000
Payments to States, Territories, and possessions	1,160,000	1,260,000	+100,000
School-lunch program	100,000,000	100,000,000	
Perishable Agricultural Commodities Act fund (permanent) [1]	546,000	675,000	+129,000
Removal of surplus agricultural commodities (30 percent of customs receipts—permanent) [2]	199,976,003	223,500,000	+23,523,997
Total	328,139,003	356,103,500	+27,964,497
Deduct permanent appropriations (shown in detail above)	200,522,003	224,175,000	+23,652,997
Total (excluding permanent appropriations)	127,617,000	131,928,500	+4,311,500
Special activity: Reimbursement to Commodity Credit Corporation for advances for grading and classing activities	367,740	80,449	−287,291

[1] In addition, unobligated balance of $304,401 available in fiscal year 1957, of which $290,401 is estimated to be carried forward into 1958.
[2] In addition, unobligated balance of $244,701,053 available in fiscal year 1957, of which $198,295,141 is estimated to be carried forward into 1958.

Mr. WHITTEN. Mr. Wells, do you have a general statement which you care to present?

Mr. WELLS. I do have a general statement, Mr. Chairman, and I would like to present it.

Mr. WHITTEN. We would be glad to have you do so.

GENERAL STATEMENT

Mr. WELLS. Mr. Chairman and members of the committee, we are happy to again review with this committee the work of the Agricultural Marketing Service and to present the budget estimates for fiscal 1958.

In past appearances we have stressed the need for more effective and efficient agricultural marketing and distribution. With the increased funds made available, we are making progress. However, much remains to be done.

Agriculture is a substantial contributor to national growth; it supplies food and fiber for our own population as well as substantial quantities of product for foreign sale. But American farmers also want to share in rising standards of living. This and the fact that their returns chiefly derive from what consumers pay for food and clothing less all handling, processing, selling and other marketing costs explains their interest in a more efficient marketing system—efficient in terms of physical operations, efficient in terms of pricing arrangements, and efficient in terms of increasing sales.

AGRICULTURAL MARKETING SERVICE PROGRAMS

The programs of the Agricultural Marketing Service are directly aimed at increasing marketing efficiency. These programs embrace the entire marketing process for farm products from the time they leave the farm until they reach the consumer.

The marketing research program attacks marketing problems at their roots, working in cooperation with farmers, the land-grant colleges, and the agricultural trades. Measurement and analysis of price spreads and marketing costs keep farmers and the public informed and aid in identifying areas in need of improvement. We use the tools of science in the biological, chemical, engineering, economic, statistical, and other fields in searching out answers on marketing costs, quality maintenance, market outlets, and improvements in methods, practices, and facilities. Moreover, we assist in finding new markets and widening existing ones by learning the current needs of both industrial and household consumers. In short, our research program covers all steps in the marketing or handling of farm commodities and their derivative products.

Basic statistical and economic data relating to food and agriculture are gathered, analyzed, interpreted, and provided to farmers and others through our economic analysis and crop reporting services. Such services provide the basis for making effective production plans and marketing decisions.

We also provide many other services which assist in orderly marketing and distribution. The market news service gathers and releases today's market information today—information which is essential to orderly pricing of commodities which are sold concurrently at many different locations. The inspection, grading, classing, and standardization services establish and apply uniform standards of quality which again make orderly trading possible as well as contributing to improved quality of product.

The national school lunch and the special milk programs help improve consumption habits and increase consumption of food products. The food distribution program moves surplus food commodities to schools, charitable institutions, and the needy. The plentiful foods program assists in directing consumer attention to foods in plentiful supply—to commodities where increased sales are most needed.

Marketing agreements and orders regulate and improve marketing of fluid milk, vegetables, and fruits. The administration of marketing regulatory laws promotes fair play and orderly trading in the marketing channels. Service projects, carried on a matching fund basis with State departments of agriculture, help to adapt and further refine many of the services just enumerated to where they can be most effective at the local level.

Marketing programs are not the only answer to our farm problems. But they are essential. Agricultural prosperity depends in large degree upon reducing or holding down marketing costs, upon accurate market information and the necessary grading and regulatory activities to insure orderly marketing, and upon finding ways and means of aiding farm products to successfully meet the unceasing competition for the consumer's dollar.

The budget for fiscal year 1958 follows the same general pattern as established in the last 2 years. It permits further increases in

marketing research, some specific additions to market news and crop reporting services, continued strengthening of certain regulatory activities, and some increase in the allowance for matched fund work with State departments of agriculture.

INTENSIFIED MARKETING RESEARCH

The budget calls for intensified research to assist in expanding outlets for farm products. This program contemplates expanded research relating to market development for new and existing products, including consumer preference studies and the evaluation and measurement of alternative merchandising methods.

In the area of market organization and costs, the nature and magnitude of changes in market spreads or margins must be defined more clearly and the resulting economic effects measured. Emphasis will continue on breaking down farm-to-retail market margins in order to better understand the marketing cost picture and indicate opportunities for achieving greater efficiency. Rapidly changing market organizations and practices need to be studied to determine how they may affect farmers' bargaining positions and returns.

Biological research in the field of improving and evaluating product quality would be expanded to provide increased control of insects attacking farm products in marketing channels, for the prevention of spoilage and loss of product quality through disease, and to assist in the development of objective measurements of product quality.

The proposed budget also provides for increased research relating to marketing facilities, work methods, and equipment. This includes studies on transportation facilities, equipment, and methods; on better shipping containers and packaging, and on how to strengthen wholesaling and retailing methods, particularly in distributing food through institutional outlets and in improving store facilities and handling methods.

ECONOMIC AND STATISTICAL ANALYSIS

Our economic and statistical analyses supply the base for much of the economic information and farm outlook work carried forward by State extension services, the farm press, and farm organizations. Farmers, processors, and dealers find reliable information regarding the demand-supply-price outlook a vitally important factor in making production and marketing decisions. As in the past year, the demand for information of this kind continues to increase.

The budget provides a small increase for economic research, chiefly to allow more detailed regional analysis, as well as funds to assist in strengthening our estimates of farm expenditures in order to give more accurate farm income estimates both for the United States and State by State. Our data on farm income and production expenses are being improved as a result of the special survey of farmers' expenditure patterns for 1955. However, annual or recurring checks are also needed due to the rapid changes in conditions which affect agriculture and the increasing importance of cash expenditures in the farm production picture.

CROP AND LIVESTOCK ESTIMATES

The crop and livestock reporting work is a basic service for all agriculture. The reports issued are of immediate value to farmers in making production and marketing plans. In addition, the basic statistics are utilized throughout industry and are essential in the development and the administration of agricultural programs. Much of the research carried on throughout the Department starts from the basic facts provided by this service.

During the past 4 years some needed additions have been made to these statistical services, including provision for experimental or pilot work relating to new and improved methods of estimating crop acreage and yields as well as livestock numbers. The budget contains funds for some much needed additions during the coming year.

Our poultry estimates need to be strengthened. This is a field where the absence of any convenient, easily accessible check data makes it imperative to develop and maintain the best possible reporting lists.

Provision is made for the full assumption by the Crop Reporting Service of the responsibility of issuing weekly weather crop reports. These reports, prepared from data available from our State statisticians' offices and the Weather Bureau, assist farmers and the public to keep track of developments between the more comprehensive monthly crop reports. The budget proposal provides a much improved, more adequate basis for these reports and will be a material step forward.

The constantly increasing dependence on prices received and prices paid by farmers—as economic indicators, for income and parity price computations, and for use in research—calls for more precise and detailed data. The proposed budget calls for a pilot program of objective measurements to meet this need for better price estimates, utilizing improved sampling techniques and expanded use of personal interviews. This program should answer the constantly recurring questions as to the reliability of our price estimates and possible means for getting more precise, better defined data. At the same time, by actually strengthening our price work in four States in different regions it will also improve the accuracy of our current price material.

Meanwhile, we have also developed and are prepared to discuss with this committee a report on current improvement activities and long-range plans for our Crop Reporting or Agricultural Estimates Service. This is in response to the letter addressed by the chairman to the Secretary of Agriculture under date of last July 31. The increases asked for in this budget, as well as those which the committee has granted over the last 4 years, are all parts of the general pattern for future development which are recommended in this report.

MARKETING SERVICE PROGRAMS

The several Marketing Service programs—market news, the inspection and grading services, and the marketing regulatory activities—are integral parts of the farm marketing system. To be effective, these services must keep pace with needs and changes in marketing patterns, in market centers, and in methods of transportation, handling, and

merchandising farm products. The budget includes several proposals to further expand and improve some of these much needed services.

ADDITIONAL MARKET NEWS ITEMS PROPOSED

The Market News Service would be extended to cover reporting on poultry, dairy product, or hog prices in four additional areas under Federal-State cooperatively financed arrangements; to provide a further expansion in coverage on fruits and vegetables moving by truck; and to permit a third step in improving the leased wire teletype service. Also, funds are included to cover seasonal costs of price reporting at two additional tobacco auction markets to which inspection has been recently extended.

The Market News Service has been gradually expanding in many ways over a number of years, including additional areas, covering additional items, under more cooperative arrangements. To maintain a continuous and uniformly high standard of service throughout the country, adequate supervision and coordination of the technical aspects of market news activities are essential. The budget provides some additional funds for these purposes: We believe they can be so used as to substantially improve the quality of the work.

OTHER NEEDS AND RESPONSIBILITIES

Adequate quality standards for our farm products are basic to an effective inspection and grading program. Small increases are budgeted for the development and improvement of standards and the procedures for applying them to dairy products, fruits and vegetables, and livestock and meats.

Continued heavy marketings of grain again make it necessary to request funds to continue strengthening the Federal supervision and expedite the handling of appeal inspections through the establishment of two additional offices located in growing marketing centers.

In addition, the enactment of Public Law 861 last August imposed added responsibilities on the Department to detect violations of the Grain Standards Act and its regulations by grain handlers and grain samplers, to document evidence, and to determine appropriate action. A budget proposal is included for implementing this work.

In accordance with the general policy approved in the 1957 budget, regularly appropriated funds are requested to finance the minimum recurring cost of providing seasonal tobacco inspection service at four additional auction markets designated during 1956.

Our workload under the several regulatory laws—Federal Seed, Packers and Stockyards, and Warehouse Acts—continues to grow. Funds are urgently needed for these areas of work so the Department can more adequately meet its responsibilities under these acts—that is, to provide regulatory services which are of direct and significant interest both to farmers and trade.

We are expanding our work under the Packers and Stockyards Act this year with the increased funds made available. By the end of this year, we expect to have 70 percent of the eligible yards posted. If the budget proposal for next year is approved the posting program can be over 90 percent completed by June 30, 1958.

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The budget makes provision for more adequate administration of the import provisions of the Federal Seed Act. Imported seed must meet certain standards of quality, while all seed moving in interstate commerce must be completely and truthfully labeled. We are finding it increasingly difficult to handle the increased workload on imported seed without excessive delays. This should be corrected.

The budget also provides funds to help strengthen the administration of the United States Warehouse Act. Adequate supervision of licensed warehouse facilities, carried out through a system of comprehensive unannounced examinations, is the foundation upon which a high degree of confidence in the administration of this program has been created. Funds are needed in order to allow the number or frequency of examinations per warehouse to be increased.

PROTECTIVE GARMENTS WORN BY INSPECTORS AND GRADERS

The Department inspects food products to assure clean, sound, and wholesome products for human consumption. In order to protect from contamination the products being inspected and graded, employees engaged in such activities are required by regulation to wear washable outer garments. However, under current practices these employees personally must bear this expense. The budget proposes appropriated funds to cover the cost of purchasing and furnishing washable outer garments to employees inspecting and grading processed fruits and vegetables, dairy products, poultry products, and meats. This proposal is consistent with a similar item applicable to meat inspection in the Agricultural Research Service.

CIVIL SERVICE RETIREMENT FUND CONTRIBUTIONS

The budget provides funds equivalent to the employer share of the retirement contribution for the marketing research and service programs. In the past, the Federal contribution toward the retirement fund for all employees has been financed from appropriated funds. Further, recent congressional action relative to the primarily fee-supported inspection and grading program was that contributions to these programs from the Federal Treasury should not be reduced until legislative policy with regard to these programs could be resolved. Therefore, this budget provides for an increase in the direct appropriation so that the cost of the retirement contributions for the inspection and grading program can be met without increasing fees for this purpose.

MATCHED-FUND MARKETING SERVICE WORK

Matched-fund marketing service work with the State departments of agriculture is a valuable means for getting actual improvements in marketing. By getting practical application of improved marketing practices, the matched-fund arrangement, provided for in the Agricultural Marketing Act of 1946, aids in maintaining quality and reducing spoilage, expanding outlets for farm products, and providing State and local marketing information.

Currently, 41 States and Territories are carrying out about 120 service projects under this fund-matching program. The State legislatures are meeting this winter, and a number of States are ex-

pected to increase their appropriations for this program. This will result in additional requests for Federal matching funds and provide for the continuing gradual growth and improvement in the matched-fund program.

TECHNICAL ASSISTANCE TO STATE

For 2 successive years the Advisory Committee on Cooperative Work with State Departments of Agriculture has expressed a need for more technical assistance from the Department in carrying on the matched-fund marketing service programs. It has continued to emphasize the urgent need by the States for specialized assistance in applying research results and experience from other States to the solution of the marketing problem at hand. Increased assistance to the States is essential to assure that Federal matching funds are being utilized by the States in the most effective manner.

SURPLUS DISPOSAL ACTIVITIES

We are continuing to encourage abundant consumption of agricultural products by distributing surplus foods outside commercial channels as well as through the plentiful foods programs.

The budget contemplates continued emphasis on the domestic donation program under both section 32 and section 416 to remove seasonal excess supplies from the market and to move surplus food products into consumption channels. Through this approach, 12 million United States schoolchildren, 1.4 million needy persons in charitable institutions, and about 3 million needy persons in family units in this country received food during the last 6 months of calendar 1956. Total distribution of surplus foods (including that to foreign outlets) for the 6 months ending December 31, 1956, was 1.4 billion pounds compared with 761 million pounds during the comparable period last year.

The Nation's food handlers and food editors are giving us splendid cooperation in our plentiful foods program to call consumer attention to foods in especially good supply and so help move increased quantities in the commercial market.

The special milk program, a related activity, helps move milk into use in fluid form before it accumulates in surplus form. Last year, nearly 1.4 billion half-pints of fluid milk were consumed under this program by children in schools. This year, further expansion is expected in schools and in child-care institutions that were made eligible under the expanded authorization enacted at the last session of the Congress.

SCHOOL LUNCH FUNDS INCREASED IN 1957

The increased funds appropriated for the school lunch program for this year are assisting schools in providing noonday meals to more schoolchildren. For the current year, it is expected that the Federal reimbursement rate per lunch will average slightly higher than in recent years.

The record high distribution of surplus commodities to schools which occurred last year is continuing this year and the budget estimates assume that the Federal contribution will continue next year at about the current level.

AMS PROGRAMS FACILITATE FARM MARKETING

Our marketing system is intricate. It is sensitive to many domestic and international developments. It handles the products from millions of farms and includes millions of producers, processors, and dealers, each making his own plans. We feel that significant, worthwhile contributions to farm marketing can and are being made in both the service and research fields—marketing research, market news, grading and inspection, marketing agreements, crop and livestock statistics, economic analyses, and similar activities that bring greater efficiency, strength, and stability to commercial agricultural markets.

The budget of the Agricultural Marketing Service reflects the minimum requirements for meeting these important needs. In addition, it provides the necessary funds for the school lunch programs and distribution of surplus agricultural commodities to schools, institutions, and needy persons—a significant service both to farmers and to those receiving the surplus food.

We very much appreciate this opportunity to discuss the proposed budget with you and report again on our marketing work. We shall be glad to provide any additional information you may desire.

MARKETING COSTS AND MARGINS

Mr. WHITTEN. One of the things I think that has contributed to some degree of public understanding about the plight of the farmer has been the action of this committee in setting aside funds to get the true facts about the spread between what the farmer received and the consumer paid for agricultural commodities. Prior to that there were many occasions on which even the Secretary said if the farmer did not take lower prices the consumers were going to rise up against all farm programs.

It is my belief, and I know I am supported by the committee, the Secretary was erroneously giving the farmers credit for the increased retail price which the consumers were paying.

Now, you have been doing some very fine work. I have read a number of your reports, and I am glad to see that the Secretary himself has publicized much of the information showing where the food dollar really goes. It helps the public to understand that higher food costs are certainly not the fault of the farmer, and in most instances the farmer is not receiving any part of the increased price paid by the consumer.

I wish you would describe to us in detail, and include in the record at this point, some of the highlights of your findings.

Mr. HORAN. Mr. Chairman, in previous years he has had some very graphic charts about the amount of the loaf of bread that the farmer gets and that sort of thing. I wonder if he has them.

Mr. WELLS. I don't have those charts with me. We can supply them for the record.

Mr. WHITTEN. We would be glad to have the charts, and I would like the full story to appear here. I think there has been a great change in the attitude toward the farmer and the farm program, and I think this change is due in part to the information you have gotten together here.

Now, I say to the Secretary's credit that, once the facts were made apparent, he has been busy drawing those facts to the attention of the public.

Mr. HORAN. Actually, Mr. Chairman, I would like to see two sets of charts. I would like to see one showing what the farmer actually gets, and then one, the graphic kind, where you slice the loaf of bread—and then another set of charts showing what the picture would be if the farmer was getting parity.

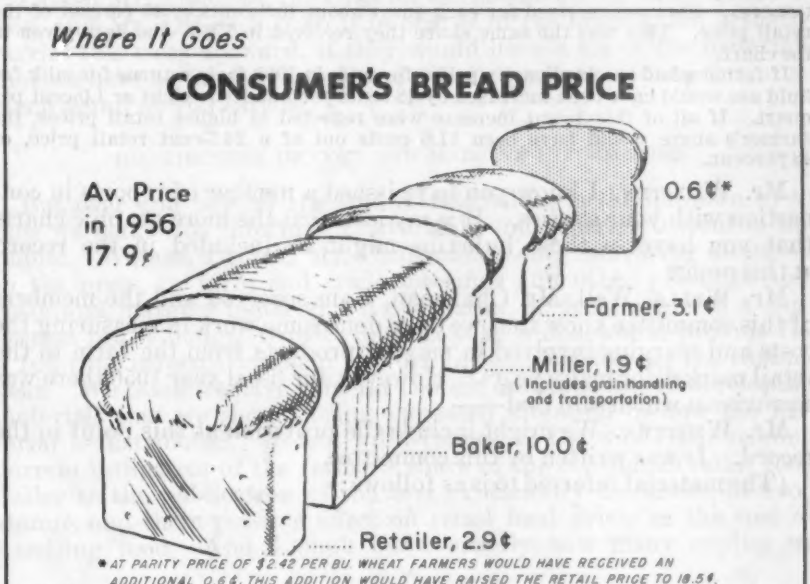
Mr. WHITTEN. I think it would be good to have that.

(The material referred to is as follows:)

Selecte food products—Retail price, farm value of equivalent quantities sold by producers, marketing margin, and farmer's share of retail price, actual 1956 and assumed 1956 based on parity prices

Product	Unit	1956 actual				Assumed, based on average 1956 parity prices		
		Retail price	Farm value	Margin	Farmer's share	Retail price [1]	Farm value	Farmer's share
		Cents	*Cents*	*Cents*	*Percent*	*Cents*	*Cents*	*Percent*
Beef (Choice grade)	Pound	66.0	40.1	25.9	61	83.2	57.3	69
Pork (excluding lard)	do	46.7	23.7	23.0	51	57.9	34.9	60
Fluid milk	Quart	23.3	10.6	12.7	45	24.3	11.6	48
Chickens, frying	Pound	46.5	25.8	20.7	55	59.8	39.1	65
Eggs	Dozen	57.6	39.8	17.8	69	65.4	47.6	73
Bread, white	Pound	17.9	3.1	14.8	17	18.5	3.7	20
Flour, white	5-pound	53.3	20.0	33.3	38	57.7	24.4	42
Rice	Pound	18.6	6.4	12.2	34	20.0	7.8	39
Apples	do	14.2	6.1	8.1	43	14.2	6.1	43
Grapefruit	Each	11.2	2.2	9.0	20	12.4	3.4	27
Oranges	Dozen	58.2	19.7	38.5	34	64.8	26.3	41
Potatoes	10-pound	67.7	26.3	41.4	39	65.8	24.4	37
Beans with pork, canned	16-ounce can	14.6	2.2	12.4	15	15.4	3.0	19

[1] Retail price computed by adding 1956 actual margin to farm value based on parity price.


Where It Goes
CONSUMER'S BREAD PRICE
Av. Price in 1956, 17.9¢
0.6¢*
Farmer, 3.1¢
Miller, 1.9¢
(Includes grain handling and transportation)
Baker, 10.0¢
Retailer, 2.9¢
*AT PARITY PRICE OF $2.42 PER BU. WHEAT FARMERS WOULD HAVE RECEIVED AN ADDITIONAL 0.6¢. THIS ADDITION WOULD HAVE RAISED THE RETAIL PRICE TO 18.5¢.
USDA
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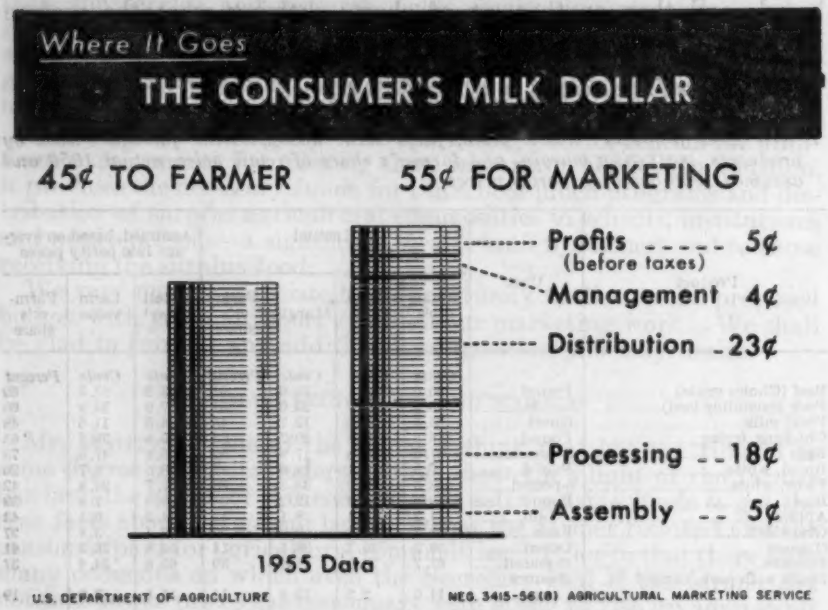
In 1956, urban consumers paid an average of 17.9 cents per pound loaf of white bread. For the wheat and other ingredients used in a pound of bread, farmers received 3.1 cents, or 17 percent of the retail price. If farmers had received parity prices for wheat in 1956, their returns for the wheat used in a loaf of bread would have been increased by 0.6 cent. If all of this 0.6-cent increase were reflected in higher retail prices for bread, the farmer's share would have been 3.7 cents out of an 18.5-cent retail price, or 20 percent.



In 1956, urban consumers paid an average of 23.3 cents per quart of milk (average BLS prices, based mainly on sales in single-quart rather than multiquart containers). Farmers received for each quart about 10.6 cents or 45 percent of the retail price. This was the same share they received in 1955—the data given in the chart.

If farmers had received parity prices for milk in 1956 their returns for milk for fluid use would have been increased by 48 cents per hundredweight or 1.0 cent per quart. If all of this 1-cent increase were reflected in higher retail prices, the farmer's share would have been 11.6 cents out of a 24.3-cent retail price, or 48 percent.

Mr. WHITTEN. I know you have issued a number of reports in connection with your studies. It is my idea that the more graphic charts that you have in those bulletins might be included in the record at this point.

Mr. WELLS. Well, Mr. Chairman, I am sure you and the members of this committee know that we have done some work in measuring the costs and margins involved in moving products from the farm to the retail market for many years. However, for fiscal year 1956 there was a provision which said that——

Mr. WHITTEN. We might include the provision at this point in the record. It was written by this committee.

(The material referred to is as follows:)

From the Department of Agriculture and Farm Credit Administration Appropriation Act, 1956:

AGRICULTURAL MARKETING SERVICE

"*Provided*, That not less than $250,000 of the funds contained in this appropriation shall be available to gather statistics and conduct a special study on the price spread between the farmer and the consumer."

From the Department of Agriculture and Farm Credit Administration Appropriation Act, 1957:

AGRICULTURAL MARKETING SERVICE

"*Provided*, That not less than $350,000 of the funds contained in this appropriation shall be available to continue to gather statistics and conduct a special study on the price spread between the farmer and the consumer."

FUNDS EARMARKED FOR COSTS AND MARGINS WORK

Mr. WELLS. For fiscal 1956 the provision was that $250,000 of the sum appropriated for marketing research should be available for the systematic development of costs and margins work.

Following the enactment of that provision, we first went through our regular statistical work and tried to find ways and means of strengthening that. Second, we started a series of commodity studies designed to develop, commodity by commodity, a first cross-section picture of what the cost or margin situation might be. We have continued that work for this fiscal year in accordance with the provision that $350,000 should be available for such work in fiscal 1957. We have interpreted that, Mr. Chairman, to include the cost of actual work, plus funds obligated for contracts entered into during the year, which is the way we handle our research regularly. What I am saying is that some of the money will not immediately be expended when it is obligated, in the year we enter into the contract; rather, it will be expended as the contract work proceeds.

I asked Mr. Trelogan, the Director of the Marketing Research Division, and Mr. DeLoach, who is in charge of the branch that actually carries this work forward, if they would have a kit of the materials that we have so far developed, and we are ready to go into this in as much detail as you care to.

DISTRIBUTION OF COST AND MARGINS INFORMATION

But over and beyond the studies themselves is the question as to how we make this information available and generally useful to the public. We are, I think, Mr. Chairman, seeing increasing attention in the press, in farm and trade meetings and other places to this costs and margins material. As a matter of fact, we have a suggestion in the budget request for this year which would provide for a full-time information man to work in this field during the coming year. We think we have gone far enough down the line in developing materials that we should bring increased attention to how the material is distributed. Recent work ranges all the way from keeping current estimatess of the farmer's share of the consumers retail food dollar to the publication of the first exploratory discussion of food stamps and their possible effect on retail food prices or the cost of handling food. And I don't know exactly how many studies we

have altogether, some 18 or 20 different lines of work going forward in this field.

Mr. WHITTEN. If these gentlemen have the materials, I would like to include them in connection with your presentation.

Mr. WELLS. These materials are everything we have published, Mr. Chairman.

I think what we had better do is prepare a statement, which will run some length.

Mr. WHITTEN. That is all right. I think it is highly important. In connection with charts and things of that sort, I think the principal ones that you may have already released should be included at this point in the record. Then we will go into the detail of it with Mr. Trelogan.

Mr. WELLS. I will be glad to do that.

(The material referred to above is as follows:)

SPECIAL MARGINS AND COSTS STUDIES

MARKETING COSTS FOR FOOD

The farmer's share of the consumer's retail food dollar dropped rather steadily from a record high of 53 percent in 1945 to 40 percent in 1956. It has declined in all but 2 years since 1945. The farmer's share in 1956 averaged the same as in 1940, immediately preceding the rapid rise during World War II (fig. 1).

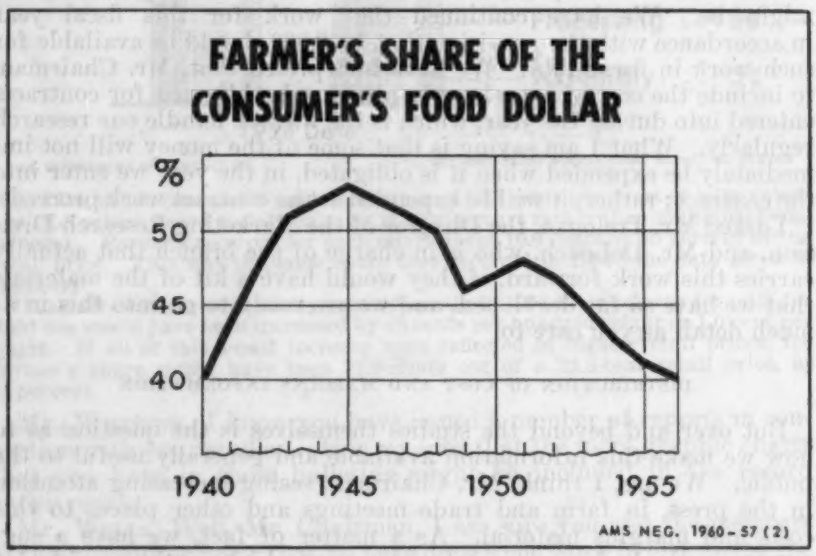


FIGURE 1.

The increased spread between retail-store prices and farm prices of food products—the marketing margin—is the principal factor causing the decline in the farmer's share since 1945. As shown in figure 2, the marketing margin [1]

[1] As used in this report, the marketing margin is the difference between retail-store cost of a typical family market basket of farm food products and payment received by farmers for an equivalent quantity of farm produce (farm value). The marketing margin includes all charges for processing and distributing farm products after they are sold by farmers. The market basket contains the average quantities of farm-produced food products purchased for consumption at home by urban wage-earner and clerical-worker families in 1952.

went up in all but 1 of the 11 years and increased by more than 80 percent. The farm value rose in only 4 years. In 1956 it averaged about 10 percent higher than in 1945.

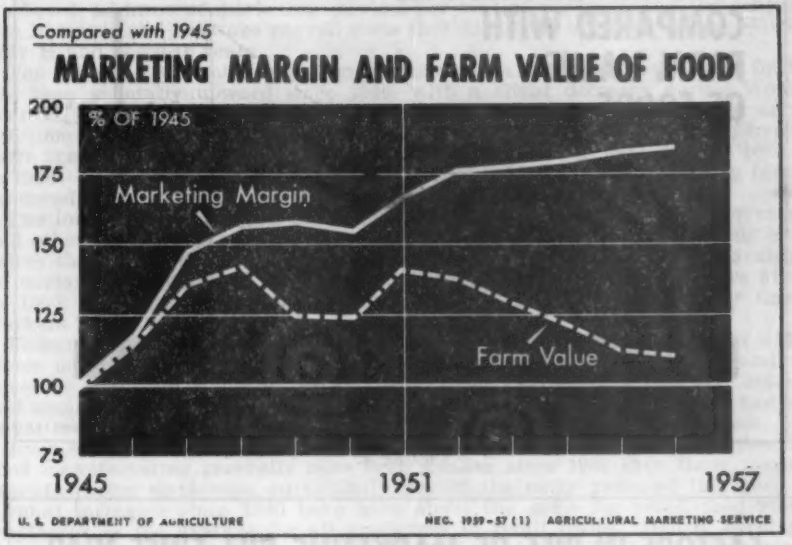


FIGURE 2.

Most of the widening in price spreads during the last decade came during two periods of general price inflation—the first following World War II and the second during the early part of the Korean conflict (fig. 2). (Some of the widening following World War II was the result of removing subsidies that were paid to marketing firms to keep retail food prices down during the war period.) Since 1952, the marketing margin has risen by an average of only 1 to 2 percent per year. The decline in the farmer's share since 1952 was more the result of lower farmer prices than higher per unit marketing costs. Measured on a monthly basis, the farmer's share reached a low of 38 percent in December 1955. But with the improvement in farm prices during 1956, the farmer's share increased to 41 percent in several months of 1956.

Consumer incomes and the marketing bill

Consumers spent a slightly larger share of their income for food in 1956 than they did in 1940. This is because they are eating more and better foods at home and buying more restaurant meals than in the prewar period. In part, the proportion of income spent for food has stayed up because of consumers' willingness to buy more and more services with their food. These increased services and the additional volume of food marketed also have added to total marketing costs.

The total bill for marketing farm food products has increased from $9 billion in 1940 to about $34 billion in 1956 (fig. 3). Several factors accounted for this $25 billion increase between 1940 and 1956 (fig. 4). The volume of food marketed increased by about 50 percent. This increase would raise the $9 billion bill at the 1940 cost level to about $13.5 billion.

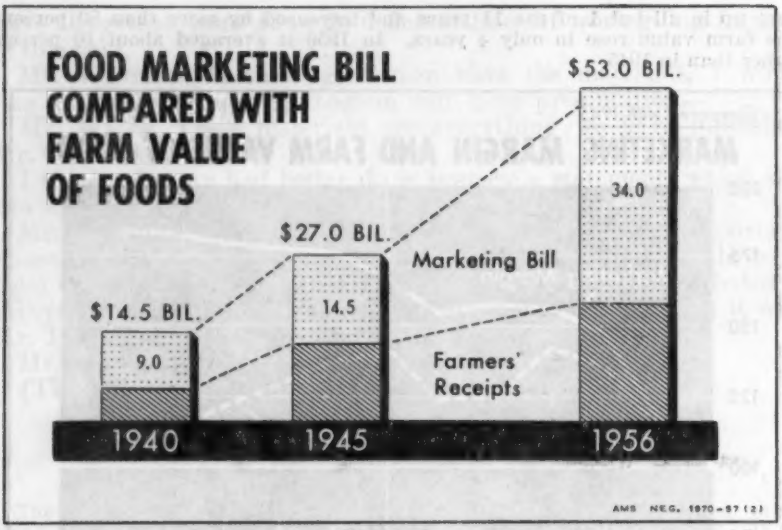


FIGURE 3.

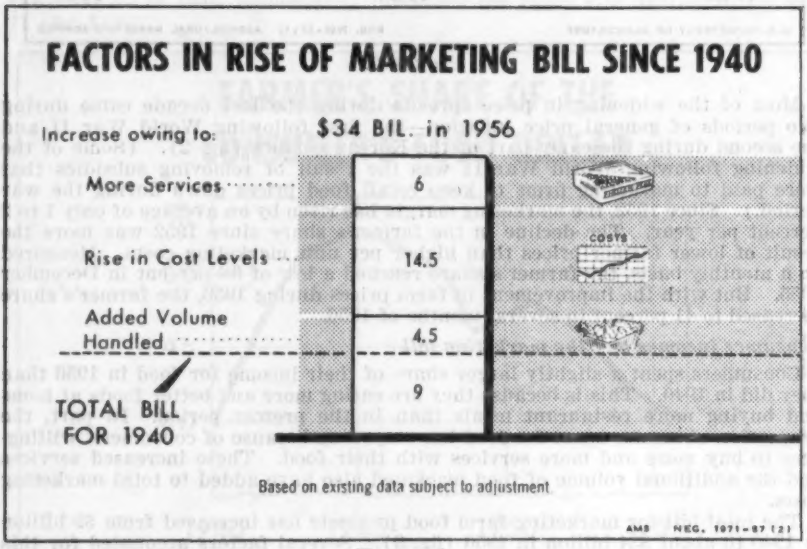


FIGURE 4.

At the 1956 cost level, the bill for marketing this 1956 volume of food would amount to $28 billion. With the general rise in all prices and costs since 1940, charges for performing marketing operations have increased by nearly 110 percent (as measured by the marketing margins).

The remaining $6 billion of the increase represents payments consumers are making for new marketing services which have been added since 1940. The marketing system is providing more services—packaging, processing, more convenience foods, more meals eaten out—that add to the labor and cost required to move foods from the farm to consumers. However, not all processing and packaging necessarily add to the cost of food. In some cases, reduction in waste and spoilage and the higher costs of shipping perishable foods may offset the extra cost of processing and packaging.

Labor

Labor cost is one of the most important cost items affecting the prices paid by consumer for food. The cost of labor engaged in marketing food has risen each year since 1940. This increase reflects expansion in quantity of products marketed, addition of marketing services per unit of products, and the general rise in wages and nonwage payroll costs throughout the economy during World War II and postwar years.

The trend in the number of persons engaged in marketing farm-produced foods has been generally upward since 1940, with a slight decrease during World War II. The number of persons engaged in food marketing, estimated on a full-time equivalent basis, was 5.2 million in 1956, approximately 33 percent more than in 1940. The cost of labor amounted to an estimated $18.3 billion in 1956—an increase of about 273 percent over the labor cost for marketing farm-produced foods in 1940.

The increase in labor costs has been affected most by increases in wage rates and other payroll costs which have been part of the general rise in costs and prices throughout the economy since World War II. Average hourly earnings of employees of farm food marketing firms, excluding transportation, were $1.82 in 1956. This contrasts with average hourly earnings of 61 cents for these workers in 1940.

Federal and, in some instances, State legislation establishing minimum wage levels may have contributed in part to this increase. In addition, expanding coverage and provisions of collective-bargaining agreements between unions and management in the processing, wholesaling, and retailing industries has no doubt contributed to increasing wage rates as well as nonwage labor costs.

Even so, year-to-year increases in average hourly earnings of employees in food manufacturing generally have been smaller since 1940 then those for all manufacturing employees, particularly during the early years of this period. Annual increases since 1940 have been about the same for retail food store employees as the average for all employees in retail trade. Hourly earnings in retail trade since 1940 have not increased as much as those in manufacturing.

Fringe benefits, which became important during World War II, have increased in amount, and the practice has spread to an increasing number of firms. Supplements to wages and salaries, which include employer payments for social insurance, unemployment insurance, unemployment taxes, compensation for injuries, and contributions to private pension and welfare funds, amount to about 7 percent of wages and salaries. Additional benefits to employees in the form of paid vacations, paid holidays, other time off with pay, bonuses, and profit-sharing plans bring the total of fringe benefits, including supplements to wages and salaries, to as much as 20 percent of payroll for some firms.

Because of increased output per man-hour of labor, labor cost per unit has not increased as much as wage rates and other payroll costs. From 1940 through 1956, per unit labor cost has increased about 140 percent (fig. 5).

It also should be noted that, although payments for wages and salaries have increased since 1940, this increase has been a factor in expanding consumer expenditures for food. Expenditures per person for food have increased each year since 1946, with the exception of 1949.

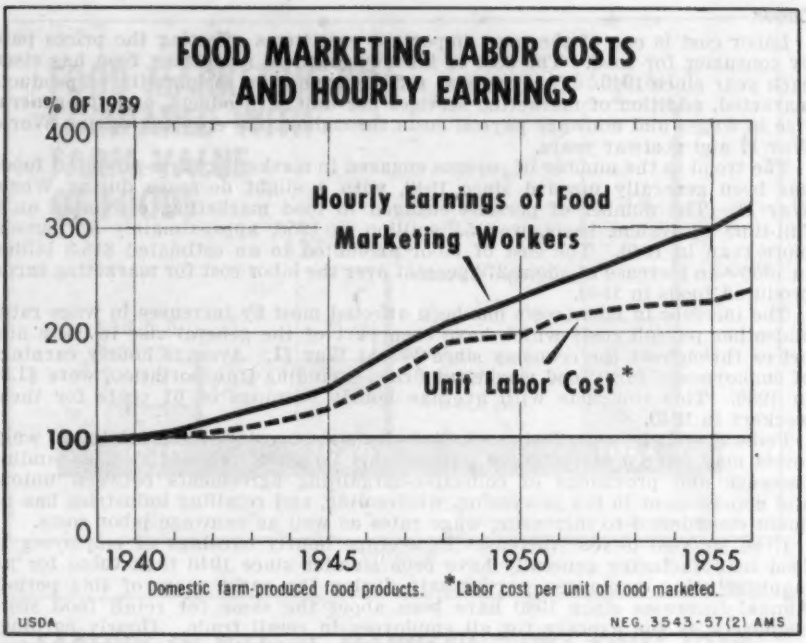


FIGURE 5.

Transportation

Since 1945, transportation has taken an increasing portion of both the marketing dollar and the retail food dollar (fig. 6). Transportation rates have increased steadily since 1945. In addition, many food items are now hauled longer distances to feed our growing population in urban centers.

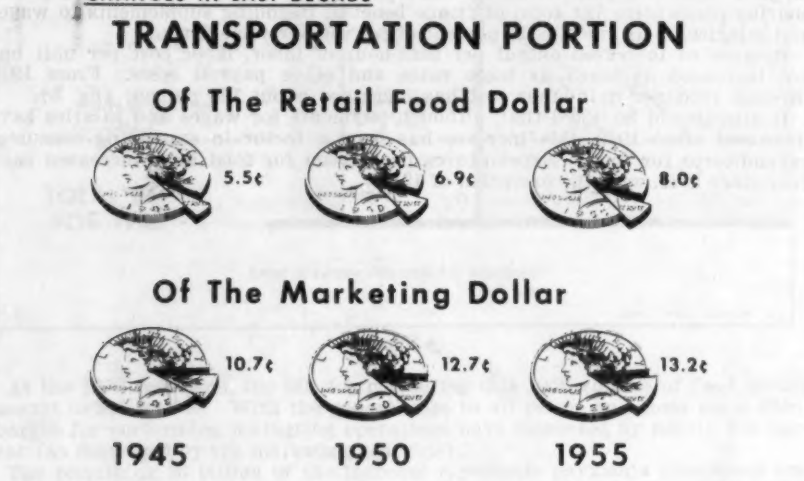


FIGURE 6.

The interstate Commerce Commission recently granted railroads another in a series of rate increases since 1945. This latest increase brought the total rise in average freight rates on agricultural products to about 75 percent during the last 10 years (fig. 7).

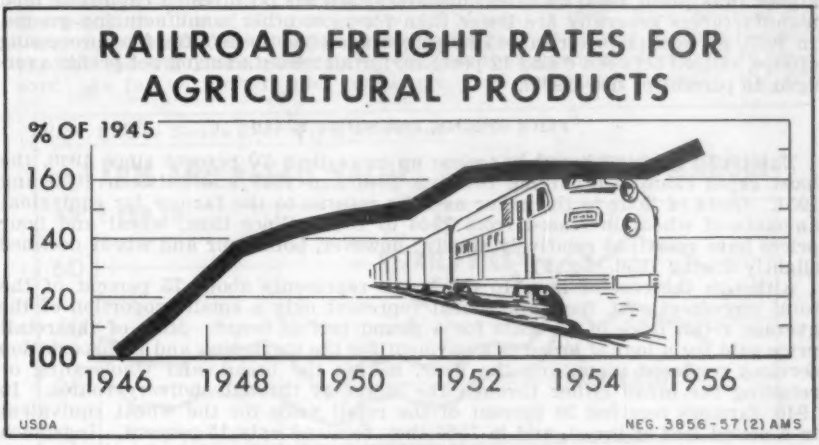


FIGURE 7.

Profits

Corporate profits before taxes in 1955 were about 6 percent of the total marketing bill for farm-food products. After taxes they amounted to about 3 percent of the marketing bill. The part of the marketing bill represented by corporate profits before taxes has ranged from less than 5 percent before World War II to a peak of almost 11 percent in 1946.

Total profits before taxes of a group of large food processors, wholesale distributors, and retail food chains have grown substantially since 1945. Larger total profits in recent years can be explained primarily by the increased volume of food sales handled by these firms. Their profits as a percentage of sales are lower than in 1945 and 1946 (fig. 8).

FIGURE 8.

Total profits and profit rates of food-marketing firms were generally a little higher in 1955 than in the preceding year. Available data indicate that profits were higher in the first 9 months of 1956 than in the same period of 1955.

In the economic sense, ratio of profits to sales is not as important a measure of profitability as return on investment. The latter ratio measures the earning power of that part of the total investment in which the stockholder has an interest. Profits of food-marketing firms in relation to invested capital are higher than profit ratio on sales; however, earnings on invested capital of food manufacturers generally are lower than for most other manufacturing groups. In 1955, net profits (after taxes) as percentage of net assets for food-processing groups, ranged between 6 and 12 percent; for all manufacturing net profits averaged 15 percent of net assets.

PRICE SPREADS FOR WHITE BREAD

The retail price of bread has gone up more than 70 percent since 1946, the most rapid changes occurring between 1946 and 1948 and between 1950 and 1951. Costs of flour to the baker and the returns to the farmer for equivalent amounts of wheat increased from 1946 to 1947. Since then, wheat and flour prices have remained relatively steady; however, both flour and wheat declined slightly during 1956 (fig. 9).

Although the cost of flour to the baker represents about 75 percent of the total ingredient cost, flour and wheat represent only a small proportion of the average retail price of 18 cents for a pound loaf of bread. Most of the retail price paid for a loaf of bread is a payment for the marketing and transportation services rendered in milling the flour, baking the bread, and wholesaling or retailing the bread either through the stores or through delivery routes. In 1946, farmers received 20 percent of the retail price for the wheat equivalent in a pound loaf of bread, and in 1956 they received only 15 percent. Inasmuch as the ingredients in bread are only about one-sixth of the retail price, considerable fluctuation can take place in farm prices without affecting bread prices.

In view of the almost divergent trends of wheat and bread prices, the baking, wholesaling, and retailing margin has been increasing fairly steadily since 1946. This increase amounted to an average of three-quarters of a cent per loaf per year between 1946 and 1954, and slightly less than half a cent per loaf per year from 1954 to 1956.

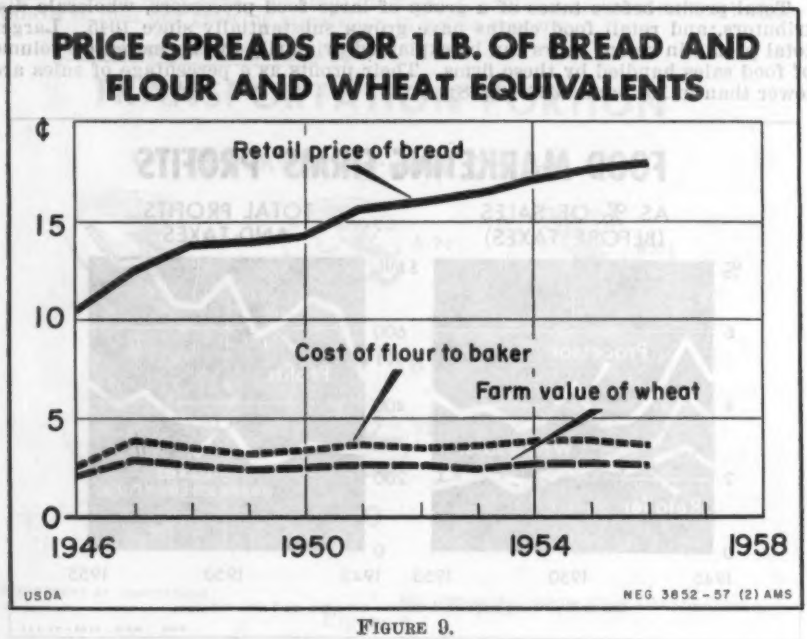


FIGURE 9.

MARKETING MARGINS FOR LIVESTOCK

Margins for marketing livestock declined somewhat after the postwar boom following World War I to a level around 14 cents per pound of meat during the first half of the decade of the twenties (fig. 10). In the latter half, they increased to around 16 cents per pound of meat. Margins declined during the depression to a low of 10.3 cents per pound of meat in 1933. They declined somewhat in the forties, but remained relatively steady at around 11 cents per pound through the war years, allowing for the fact that subsidies were paid to processors. As far as farmers and consumers were concerned, however, the effect

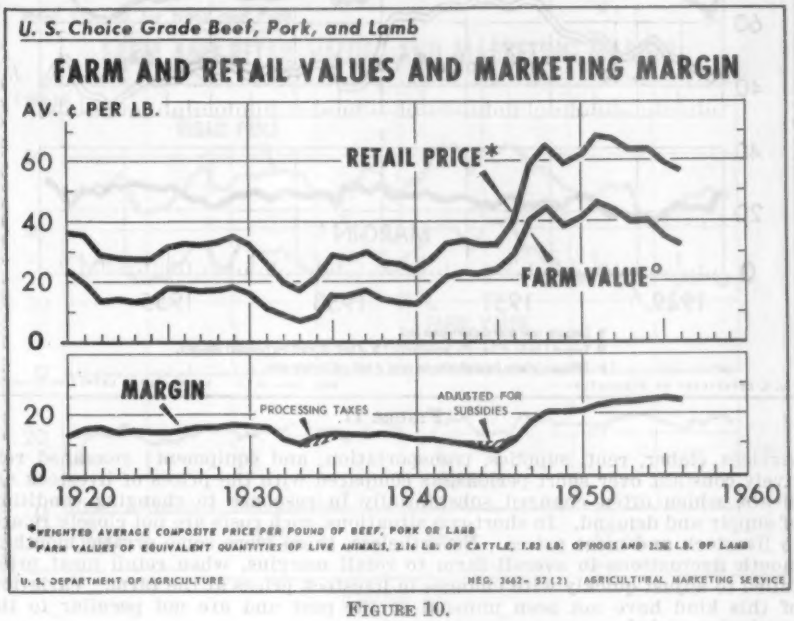


FIGURE 10.

of the subsidies was to lower the actual marketing margin paid by consumers to a low point of 7½ cents per pound of meat in 1945. During the postwar inflation, retail prices of meat, farm values of livestock, and marketing margins shot up sharply from 1946 to 1948. Margins increased from 12.9 cents per pound to 20.6 cents per pound, almost 8 cents per pound in 3 years. Although both retail prices and the farm values of livestock fluctuated during the postwar period, margins appeared to be more stable from year to year. Nevertheless, margins kept on increasing gradually until they leveled off at a high figure of 25 cents per pound in 1955 and 1956.

Since 1946 meat and livestock prices have moved up and down substantially but in different amounts in response to the changing conditions of supply and demand. Margins did not fluctuate in the same fashion during this period. The costs of providing marketing services (in other words, the costs of labor, rent, supplies, transportation, and equipment) tended to be more stable over short-run periods, although they increased during the 10-year period. The costs of providing marketing services are not closely related to livestock and meat prices in the short run.

Marketing margins for beef

Marketing margins for beef trended gradually upward from 1949 to 1956, as shown in figure 11. In this chart, the retail price of U. S. Choice grade beef is compared with the farm value of the equivalent 2.16 pounds of live cattle, less an allowance for the byproducts sold by packers. Marketing margins varied less in dollars and cents than did the farm prices of livestock over periods in which the livestock prices changed substantially, as they did from the higher levels of 1951–52 to the lower levels of 1953–56. The cost of providing marketing

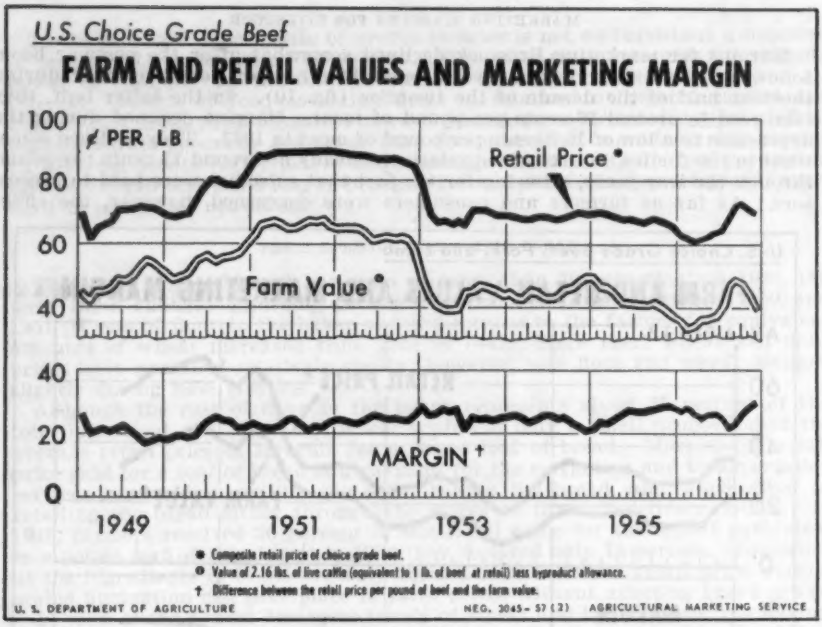


FIGURE 11.

services (labor, rent, supplies, transportation, and equipment) remained relatively constant over short periods, as compared with the prices of livestock and meats, which often changed substantially in response to changing conditions of supply and demand. In short-run situations, such costs are not closely related to livestock and meat prices. Nevertheless, there were some erratic month-to-month fluctuations in overall farm to retail margins, when retail meat prices failed to adjust quickly with changes in livestock prices at the farm. Variations of this kind have not been unusual in the past and are not peculiar to this particular period.

From 1954–56, however, some longer time lags in adjustment of farm-to-retail prices had some greater effects on marketing margins. During the rise in prices of high-grade steers and heifers in the latter part of 1954, the retail price of beef remained relatively stable. Margins narrowed substantially below the longer run average level during this period. When prices dropped in 1955 and early 1956, margins widened to record levels. In this case, the failure of retail and wholesale prices to follow live prices more closely, or the successive narrowing and widening of margins during a period first rising and then falling cattle prices, tended to increase the instability of farm prices of cattle. Both the upswing of cattle prices in the latter half of 1954 and the downswing in 1955 and 1956 were greater than they would have been if retail and wholesale prices had followed cattle prices more closely.

From the first quarter of 1955 to the first quarter of 1956, the farm-to-retail marketing margins increased 4.9 cents per pound on the basis of retail weight, from 22.5 cents in the first 3 months of 1955 to 27.4 cents during the first 3 months in 1956. About two-thirds of this increase was a recovery from the lower level of 1954. This 4.9 cents at the retail level was equivalent to a widening of margins of about $2.25 per 100 pounds on the live-weight basis. About 87 percent of this widening of the marketing margin over this period of 1 year was acounted for at the live-to-wholesale level, 13 percent at the wholesale-to-retail level. Again, with rising beef and cattle prices in 1956, marketing margins first narrowed substantially from 27.4 cents per pound in the first quarter to 23.0 in the third. They then widened to 27.6 cents per pound in the fourth quarter, to about the same level as in the same period in 1955.

Marketing margins for pork

Farm and retail values and marketing margins for pork from 1949 to 1956 are shown in figure 12. This shows that the changes in the farm value of 1.82 pounds of live hogs, equivalent to a pound of pork at retail, tended to coincide roughly with the movements of retail pork prices. Nevertheless, there were some rather substantial fluctuations in marketing margins within each year during this period.

Three other important characteristics of prices and margins during this period are shown in this chart. One of these is (1) the gradual widening of

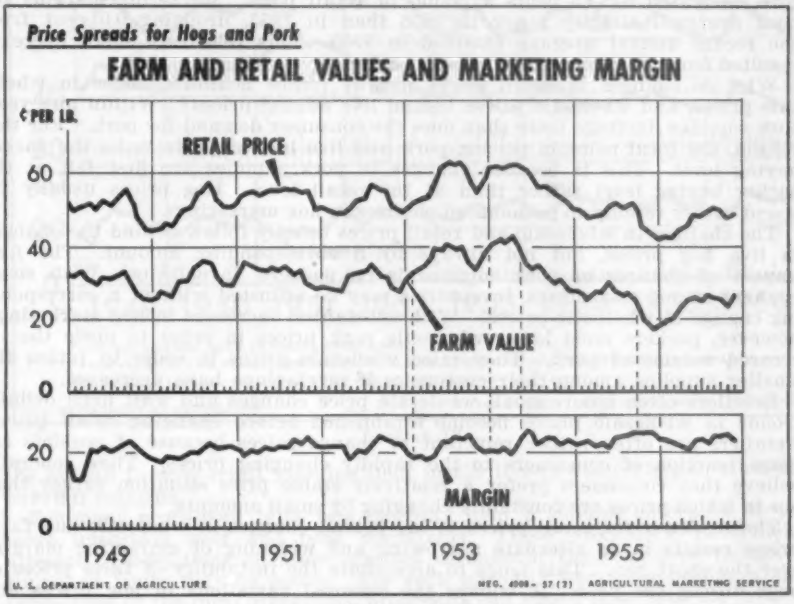


FIGURE 12.

farm-to-retail margins. Since 1947, margins have widened 5.5 cents a pound, or at an average annual rate of about 0.6 of a cent a year.

Another tendency is (2) the seasonal pattern of wider marketing margins in the latter half of the year than in the first half. On the average, the margin for converting 1.82 pounds of live hog on the farm to 1 pound of pork at the retail store was about 1.8 cents more during the latter half of the year. This is equivalent to an increase of about $1 per 100 pounds of live weight in the marketing bill in the late summer and fall.

A part of this seasonal increase in marketing margins may be due to the changing number of hogs marketed, which actually represents changing demands for marketing services. With increased marketings, packers, of course, have to expand their hog kill. This requires more hours of work per week. This in most cases results in overtime pay. In this situation, packers have no problem at all in obtaining the supply of hogs they need. But they do often have a problem in handling all the hogs that are delivered to them. The live-hog market then has a weaker undertone.

Packer-wholesaler spreads become wider during the fall when farmers begin selling their spring pigs in sizable numbers and when there is said to be a buyer's market. Large hog marketings represent a high demand for marketing services. The reverse is true when hog marketings are light. Then the demand for marketing services is low and packers often must take a lower margin—or price—for the processing and wholesaling services they provide.

Another factor influencing the seasonal pattern of the overall marketing margin is (3) lags in price adjustments between farm and wholesale prices and between wholesale and retail prices. Some of the effects of the lags in the adjustment of retail prices behind changes in farm prices are shown in the

chart. For example, in early 1953, farm prices rose much more rapidly than retail prices, and margins appeared to be narrowed for a time. This also happened in late 1953 and early 1954. In mid-1955, however, margins widened sharply when retail prices lagged behind the sharply dropping prices of live hogs. In the latter half of 1955, the lag of retail prices behind the rapidly declining hog prices brought the overall marketing margins to a record high figure. From the second quarter to the fourth quarter during 1955, retail prices for pork dropped 3.7 cents a pound while the equivalent quantity of live hogs dropped about 8 cents in value. The marketing margin, therefore, increased by 4.3 cents a pound of retail pork. Marketing margins for pork averaged slightly lower in 1956 than in 1955, dropping 0.9 cent from the record annual average attained in 1955. This relatively small decrease resulted from slight decreases in both packer and retailer margins.

Why do changes in retail prices usually follow behind changes in wholesale prices, and wholesale prices behind live animal prices? Within any year, pork supplies fluctuate more than does the consumer demand for pork. For this reason, the focal point in pricing pork and live hogs appears to be the packer buying level. This is because changes in pork supplies are first felt at the packer buying level rather than at the retail level. Hog prices usually respond rather rapidly to pronounced changes in hog marketings.

The changes in wholesale and retail prices usually follow behind the changes in live hog prices, but not always by a corresponding amount. The first impact of changes of pork supplies is on packers' inventories. With small changes in hog marketings, inventories may be adjusted without a corresponding change in wholesale prices. With substantial increases in hog marketings, however, packers must lower wholesale pork prices in order to move the increased volume of pork. They raise wholesale prices in order to ration the smaller supplies among their customers if marketings have decreased.

Retailers often ignore small wholesale price changes and wait until definite trends in wholesale prices become established before changing retail prices. Retailers are often rather reluctant to change prices because of possible adverse reaction of consumers to the rapidly changing prices. They generally believe that consumers prefer a relatively stable price situation rather than one in which prices are constantly changing by small amounts.

The tendency for retail prices to lag behind changes in wholesale and farm prices results in an alternate narrowing and widening of marketing margins over the short run. This tends to accentuate the instability of farm prices of hogs during the year. It widens the seasonal variations in hog prices and creates special problems for producers.

Marketing margins for lamb

Overall marketing margins for lamb, from live-animal prices at the farm to the retail prices of lamb in the stores, are shown in figure 13. In this chart, average retail prices per pound of lamb are compared with the farm value of an average equivalent 2.37 pounds of live lamb.

Farm-to-retail margins declined gradually through 1949 and 1950, and then dropped rather sharply during the first part of 1951. Government ceiling price regulations were imposed early in 1951, preventing retail prices of lamb from rising at a rate comparable to the rising farm prices of live lambs. Margins were narrowed, therefore, during this period as the prices of live lambs advanced while wholesale and retail prices of lamb were nearly stationary for a time. During the following period, the overall farm-to-retail margin increased rapidly from an abnormally low 20.9 cents per retail pound in the first quarter of 1951 to more than 29 cents in the last quarter of 1953. During the next 3 years, from 1954 through 1956, the overall marketing margins for lamb leveled off at about 28 cents per retail pound.

Within the year, overall farm-to-retail margins for lamb tend to follow a seasonal pattern, dropping during the early part of the year and rising through the late summer, fall, and winter. This seasonal pattern is more apparent in

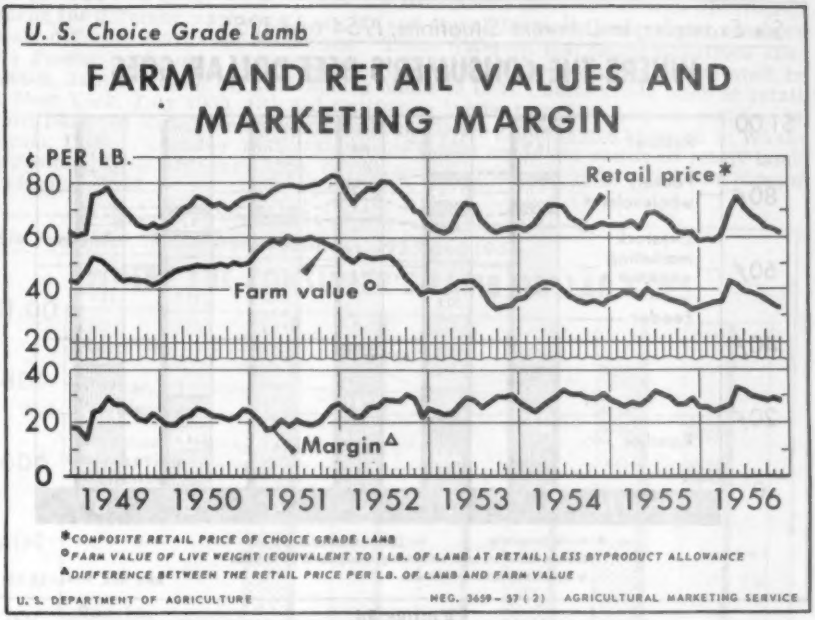

U. S. Choice Grade Lamb
FARM AND RETAIL VALUES AND MARKETING MARGIN
¢ PER LB.
80
60
40
20
40
20
0
Retail price*
Farm value°
Margin△
1949 1950 1951 1952 1953 1954 1955 1956
*COMPOSITE RETAIL PRICE OF CHOICE GRADE LAMB
°FARM VALUE OF LIVE WEIGHT (EQUIVALENT TO 1 LB. OF LAMB AT RETAIL) LESS BYPRODUCT ALLOWANCE
△DIFFERENCE BETWEEN THE RETAIL PRICE PER LB. OF LAMB AND FARM VALUE
U. S. DEPARTMENT OF AGRICULTURE
NEG. 3659-57 (2) AGRICULTURAL MARKETING SERVICE

FIGURE 13.

the overall farm-to-retail margins than in the live-to-wholesale and wholesale-to-retail margins.

For many processors, lamb is a specialty item, a sideline enterprise to their more important beef and pork operations. These processors, nevertheless, attempt to keep their clientele supplied throughout the year even though the supply of lambs may be scarce. For such specialty items, comprising a small percentage of the total operations, processors can afford to go into the "red" for short periods of time in order to maintain a supply for their lamb purchasing clientele. When lamb supplies are more adequate later in the year, these same processors may find opportunities to recoup their earlier losses.

Where the consumer's meat dollar goes

Cattle, hogs, and lambs go through a number of steps and processes in being moved from the farm and converted to meat for consumers. To illustrate these steps and different costs of marketing, six examples each for beef, pork, and lamb have been prepared. These show the returns to ranchers, farmers, and feeders in different marketing situations during 1954, 1955, and 1956, and the returns to different agencies.

Figure 14 shows returns to ranchers and feeders for cattle in six different marketing situations during 1954 and 1955. These returns are expressed as percentages of the consumer's beef dollar. The six examples are: (1) and (2) feeder steers from a Texas ranch to sale of U. S. Choice grade beef at retail in New York City, (3) a feeder steer from a Wyoming ranch to sale of U. S. Choice grade beef at retail in Washington, D. C., (4) a steer raised and fed on an Illinois farm to sale of U. S. Choice beef at retail in Chicago, (5) a feeder steer from a Texas ranch to sale of U. S. Choice beef at retail in Los Angeles, and (6) a feeder steer from a Montana ranch to sale of U. S. Choice grade beef at retail in San Francisco.

Six examples for pork marketing are shown in figure 15. These illustrate different distributions of the consumer's pork dollar to the various agencies involved in raising the animal and on through channels to the market at the place, time, and form in which the consumer wants it. These six examples represent different production and marketing programs for hogs, farrowed in the fall of 1954 and spring of 1955 and marketed as slaughter hogs 6 to 8 months later. They show the returns to various agencies for marketing of hogs and pork from: (1) An Iowa farm to consumers in New York City, March 1955, (2)

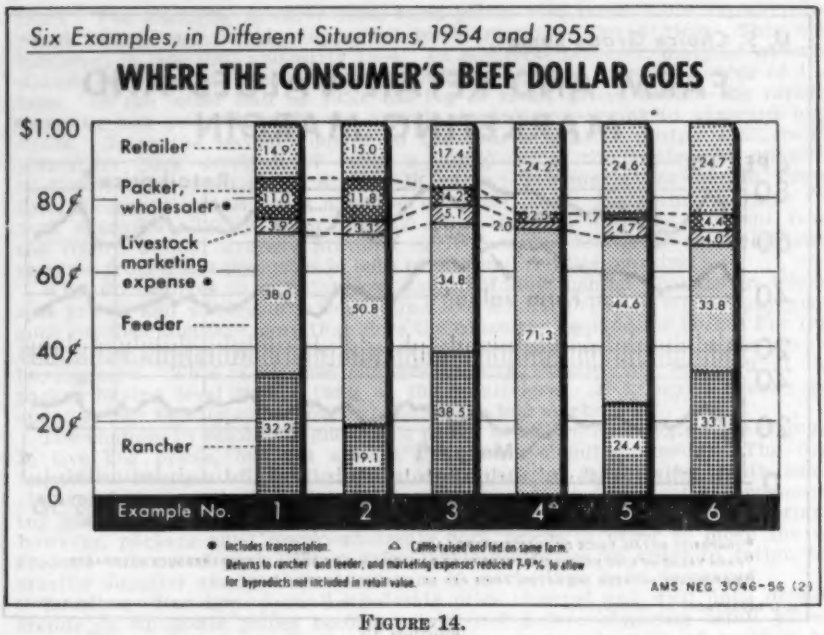


FIGURE 14.

an Illinois farm to consumers in Washington, D. C., April 1955, (3) a Nebraska farm to consumers in San Francisco, Calif., November 1955, (4) an Indiana farm to consumers in New York City, October 1955, (5) a South Dakota farm to consumers in Seattle, Wash., November 1955, and (6) an Illinois farm to consumers in Chicago, Ill., September 1955.

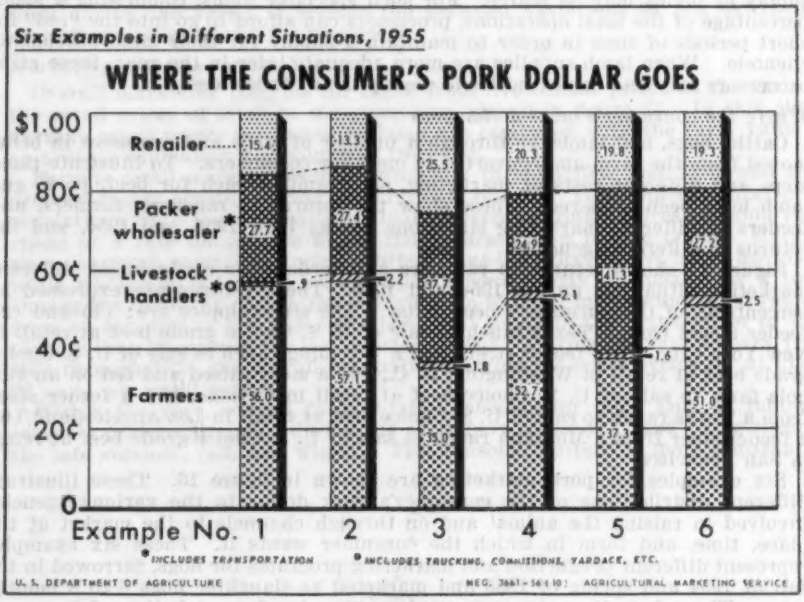


FIGURE 15.

Figure 16 is a chart showing how the consumer's lamb dollar was distributed among the different marketing agencies and among farmers, feeders, and ranchers in six different marketing situations. These different marketing situations are: (1) Feeder lambs on a Wyoming ranch to U. S. Choice grade lamb at retail in Boston, January 1956, (2) Ohio spring lambs to U. S. Choice grade lamb at retail in New York, July 1956, (3) fed California lambs to a Los Angeles retailer in April 1956, (4) Texas feeder lambs to U. S. Choice grade lambs at retail in Washington, D. C., December 1955, (5) feeder lambs on Idaho ranch to retail lamb in Porland, Oreg., January 1956, (6) Montana spring lambs to retail in Chicago, September 1955.

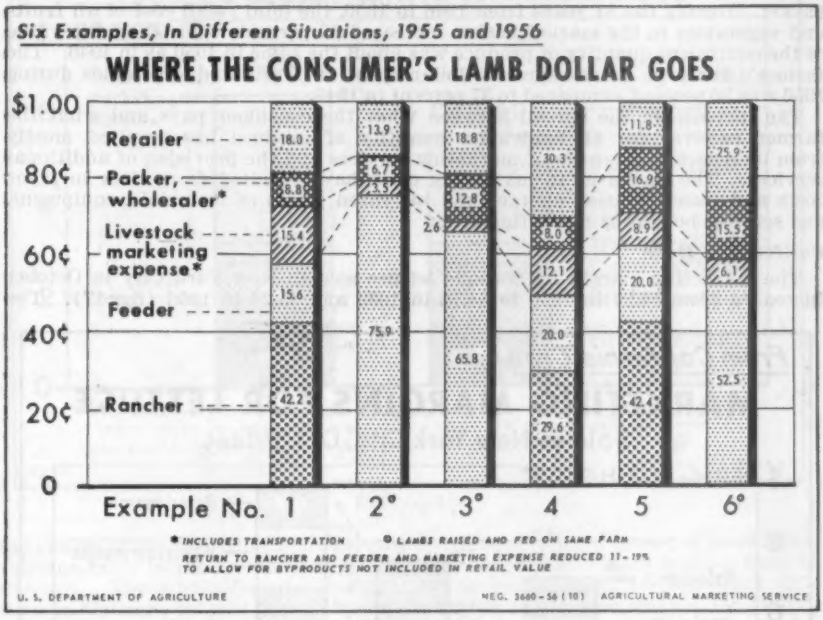


FIGURE 16.

There were some striking differences in each of these illustrations. The Texas steer which went to New York returned 15 cents of the consumer's beef dollar to the retailer. The Texas steer which went to Los Angeles returned almost 25 cents to the retailer. Packer-wholesaler's share of the consumer's dollar for the beef sold in New York was 11 cents. In Los Angeles, it was 2½ cents.

In the third example for pork, the farmer received 35 cents of the consumer's dollar while the marketing agencies received 65 cents. In the second example, however, the farmer got 57 cents, while the marketing agencies got 43 cents.

In the fifth example for lambs, the retailer got about 12 percent of the consumer's dollar for lamb, while in the fourth, the retailer got over 30 percent. In the second marketing situation, the packer-wholesaler received about 7 cents of the consumer's dollar, while in the fifth, the packer-wholesaler got about 17 cents of the consumer's dollar. In the second situation, the producer received over three-fourths of the consumer's dollar, while in the fourth the rancher and feeder together received about half.

These charts demonstrate that returns to the more important marketing agencies as well as the returns to farmers, feeders, and ranchers can differ greatly during a year. They tend to bring out the importance of variations in net returns received by farmers and marketing agencies resulting from differences in marketing channels used, location, time of marketing, and other factors. Had the farmer in each example decided to market his livestock 1 month earlier or 1 month later, his returns, and returns to the packer-wholesaler and retailer, might have been substantially different, and corollary to this, the distribution of the consumer's dollar among agencies would have been different.

These examples illustrate, in terms of individual marketings of livestock and meat from farm to consumer, that differences between costs and selling prices can vary greatly, yielding different margins for similar services at different times.

MARKETING MARGINS FOR FRUITS AND VEGETABLES

Marketing margins for fruits and vegetables have risen in recent years, but the rate of increase has been less than the average for all farm products in the market basket. Between 1946 and 1956, marketing margins for fresh and processed fruits and vegetables in the market basket increased 32 percent. This compared with an average increase of 58 percent for all foods in the market basket. During the 11 years from 1946 to 1956, the total retail cost of all fruits and vegetables in the market basket increased 20 percent, while the farm value of the equivalent quantity of produce was about the same in 1956 as in 1946. The farmer's share of the consumer's dollar spent on fruits and vegetables during 1956 was 30 percent, compared to 37 percent in 1946.

The increase in the spread between what the consumer pays and what the farmer receives for an equivalent quantity of produce has resulted mostly from increases in the costs of marketing services and the provision of additional services. The increases in marketing costs have resulted from rises in labor costs and transportation charges and increased prices of materials, equipment, and services bought by marketing firms.

California lettuce

The marketing margin for Salinas lettuce sold in New York City in October increased from $4.27 in 1950 to $4.76 in 1955 and $5.28 in 1956 (fig. 17). The

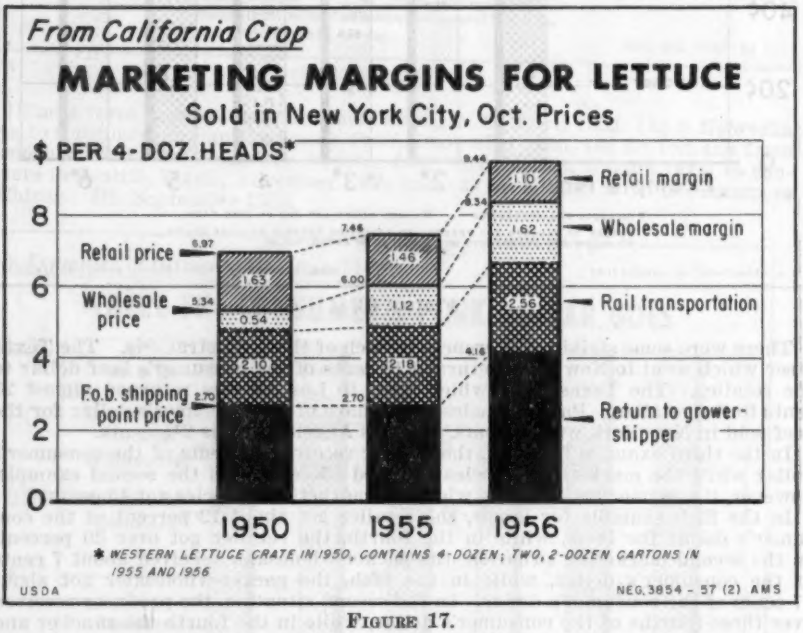


FIGURE 17.

growing and shipping of Salinas lettuce is usually handled by the same firm. Harvesting and packing costs declined due to a change from shed packing in iced crates to field packing in cartons and vacuum cooling. At 1953 price level, the cost for harvesting and packing was $1.89 per 4-dozen crate. For an equivalent amount of lettuce packed in cartons the cost of harvesting and packing averaged $1.48. Costs of transportation and wholesaling have continued to rise. Retailing has taken a smaller share of the marketing costs. In 1956 returns to grower were nearly double those of 1955 and 1950, due in part to a shorter crop—about 20 percent below the 1951–55 average October shipments.

Florida oranges

The charges for marketing Florida oranges through the fruit auction in New York City during the 1955–56 season averaged 90 cents per box higher than the charges for oranges sold through the Chicago fruit auction (fig. 18). The unload-

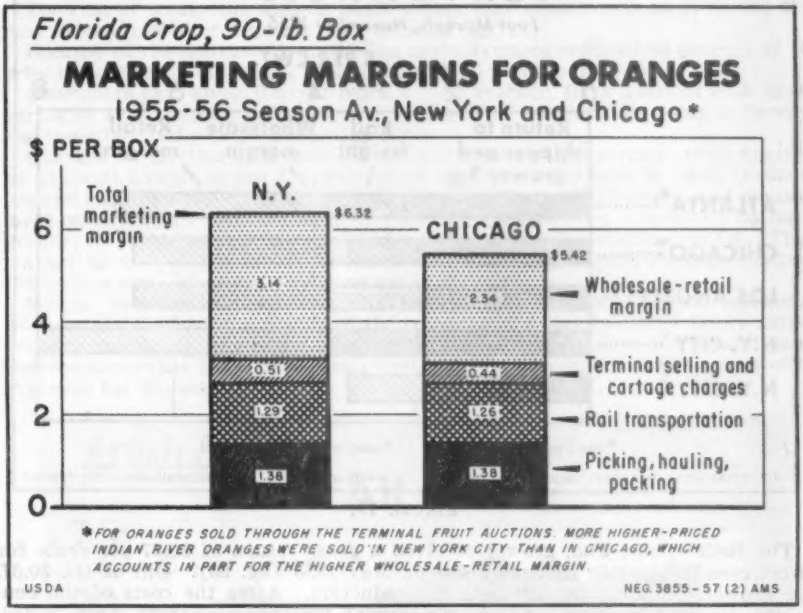


FIGURE 18.

ing charge of the railroads made the cost of transportation 3 cents per box higher. Cartage rates in the crowded New York City market also were greater than in Chicago. The wholesale-retail margin was 80 cents higher in New York City than in Chicago, in part because New York City is a prime market for Indian River oranges, which bring a higher price than fruit from other sections of the State. In general, higher priced fruit carried a somewhat higher margin at the retail level.

Comparisons of costs for fruit sold through the New York fruit auction in 1949–50 and 1955–56 showed that the wholesale-retail margin increased 1 percent, terminal selling and cartage charges increased 52 percent, rail transportation rose 5 percent, and picking, hauling, and packing costs were up 14 percent.

Potatoes

Comparisons of marketing margins for Idaho Russet Burbank potatoes sold in 4 major markets are shown in figure 19. The grower and the shipper together received from 28 to 34 percent of the retail price. The grower-shipper share of the retail price for Long Island Round White potatoes sold in New York City at the same time was 32 percent. Retail prices of Idaho potatoes ranged from the equivalent of $6.60 per 100 pounds in Los Angeles to $8 in New York City, while Long Island potatoes were bringing $4.50 per 100 pounds in New York City.

Retail margins (the spread between the wholesale and retail prices) on Idaho Russet Burbanks ranged from $2.72 per 100 pounds in Atlanta to $3.60 in New York City. The lowest retail margins, in terms of a percentage of the retail price, were found in Atlanta and the highest in Los Angeles. Retail margins on Long Island potatoes in New York City were lower than those found in any of the four cities for Idaho potatoes in dollar terms, but higher in percentage terms.

Preliminary examination of data for November 1956 shows no appreciable change from the margins shown for November 1955.

Florida sweet corn

The following marketing charges and grower returns are typical of those experienced during the heavy shipping period of the 1955 season for Florida sweet corn.

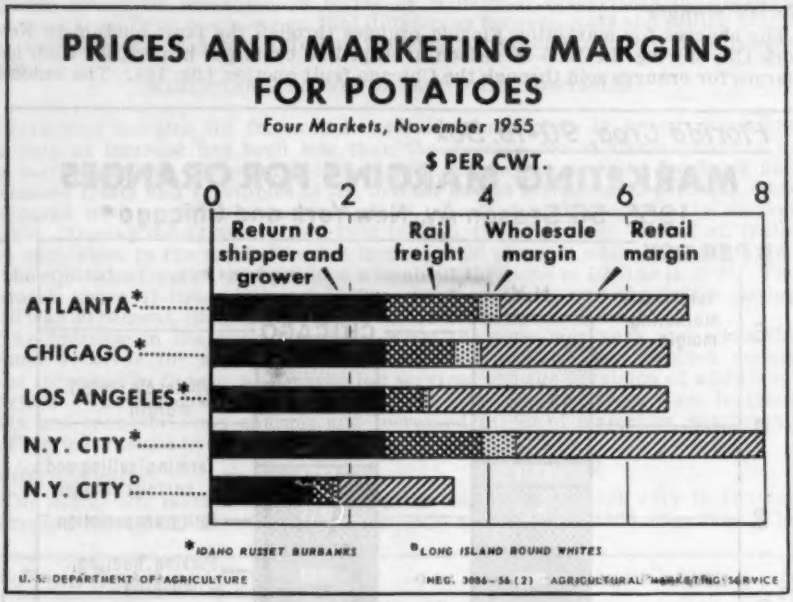


FIGURE 19.

The Belle Glade, Fla., grower received a gross return of $0.67 per crate for sweet corn shipped to Baltimore during May 1955 (fig. 20). Out of the $0.67, the grower had to cover all costs of production. After the costs of the container, picking, packing, and shipping point marketing charges were added, the f. o. b. shipping point price was $1.70 per crate. The wholesale selling price was $2.75 and the retail price was $3.87 per crate.

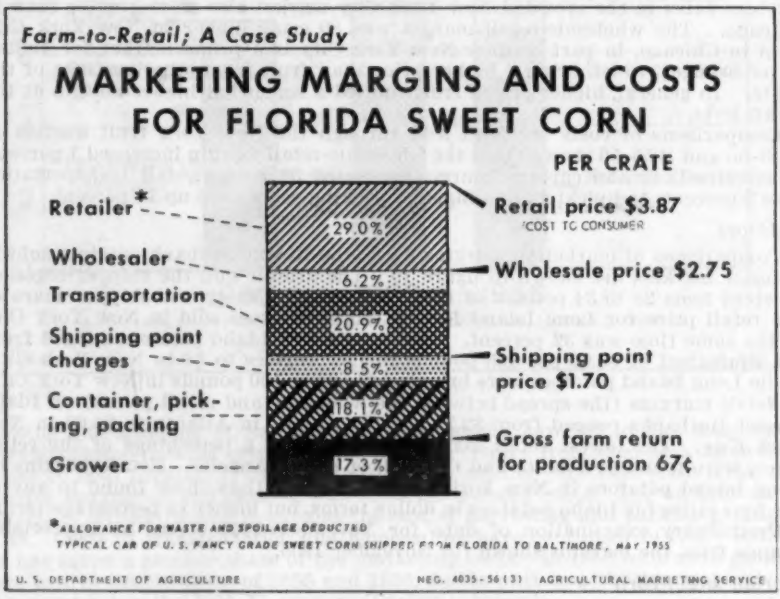


FIGURE 20.

FRESH MILK

The average price paid by consumers for a quart of fresh whole milk went up one-fifth from 1947 to 1955. But the average price received by farmers for milk was about the same in both years (fig. 21).

The cost of marketing milk is much higher now than it was in 1947, the first year after removal of wartime price ceilings (fig. 22).

Because of the increase in marketing costs, farmers received 45 percent of the price consumers paid in 1955, compared with 55 percent in 1947.

Consumers paid about 0.8 cent more, on the average, for a quart of milk in the spring of 1956 than a year earlier. About half of this increase went to farmers and the other half went to marketing firms.

Charges for hauling milk from farms to processing and bottling plants amounted to about 5 cents of the dollar spent by consumers for milk in 1955. Processing and bottling costs made up 18 cents; distribution costs, 23 cents; and management costs, 4 cents. Marketing firms received 5 cents of the consumer's dollar in profits; corporate income taxes take about one-half of the business profits. Thus, marketing costs and profits represented 55 cents of the consumer's milk dollar in 1955. The rest—45 cents—was received by farmers.

Wages, salaries, commissions, and other costs of employing the marketing workers accounted for a fourth of the consumer's dollar in 1955. Depreciation, property taxes, insurance, and other expenses made up 9 cents; bottles and paper cartons accounted for 6 cents; and fuel, electric power, advertising, and other expenses for 10 cents.

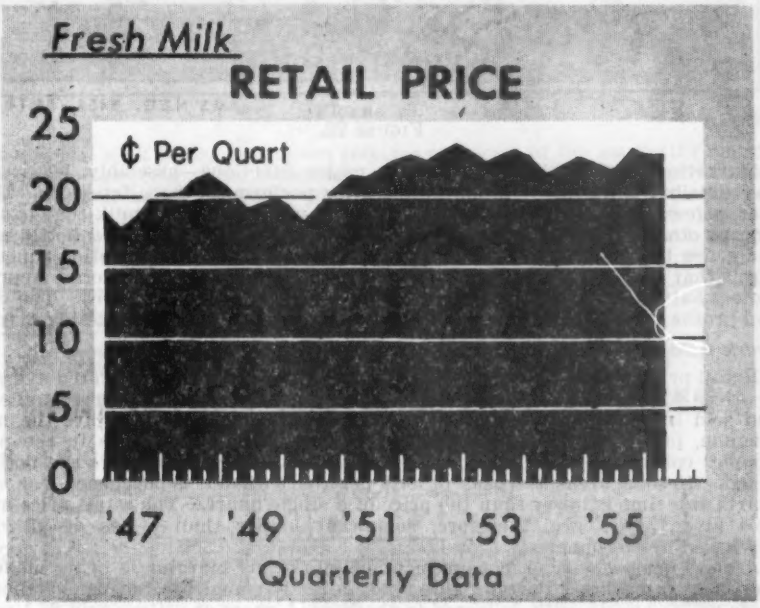


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FIGURE 21.

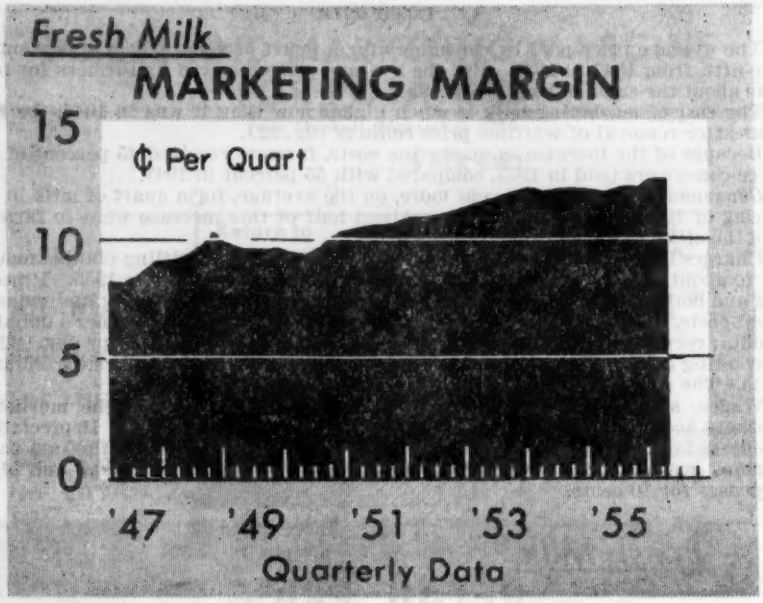

FIGURE 22.

Marketing fresh milk includes three major functions—assembly, processing, and distribution. Most milk marketing firms perform all three functions. However, a few firms operate only country plants which assemble milk that is shipping to other plants for processing. A few firms only process and bottle milk, and a few buy milk from processors and perform only the distribution function. Firms that specialize in bottling milk generally are called milk dealers. Approximately half the fluid milk is sold to consumers through retail stores. The costs and profits of these stores in handling milk are a part of the marketing margin.

Fresh milk in Chicago

Retail prices of fluid milk given in the preceding figures are weighted averages of prices published by the Bureau of Labor Statistics for milk delivered to homes and sold in retail stores. Since purchases of 1 quart generally are the most common, price quotations on single-quart purchases predominate in the price samples collected by the BLS. Prices of milk in gallon containers are not collected. In some areas, the price of milk per quart when it is purchased 2 or more quarts at a time is lower than the price of a single quart. The retail price averages given above are, therefore, somewhat higher than prices of all milk purchased by consumers.

A more comprehensive measurement of marketing margins is being made in the Chicago market. Parts of this study already completed tell us that households which bought milk delivered to the home 1 quart at a time paid 26.1 cents a quart. Those who bought more than 1 quart at a time in 1-quart containers paid 22.4 cents a quart. For milk delivered to homes in gallon jugs they paid 20.7 cents a quart. Averaging all purchases of milk delivered to homes in all sizes of containers, the price was 22.6 cents a quart.

Households in Chicago buy much milk at stores also. The average prices they paid for each size of container are shown separately for stores and home delivery in figure 23.

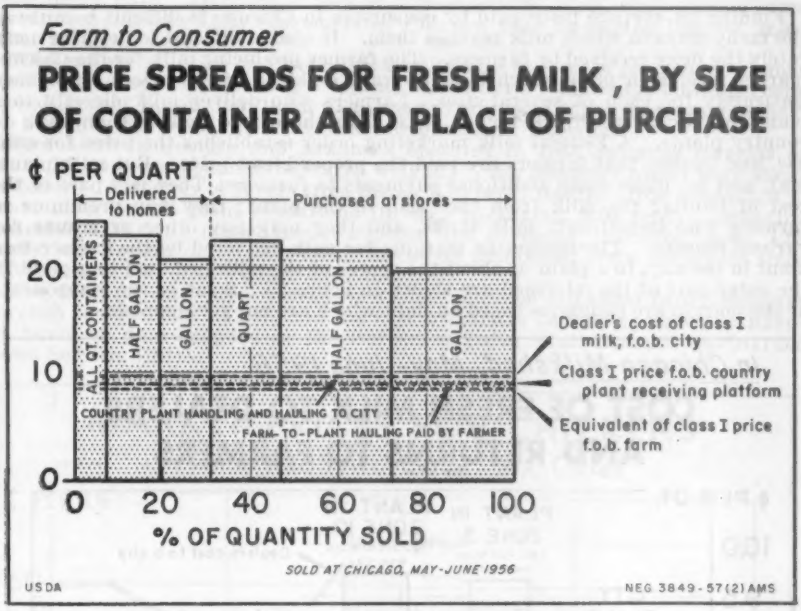

FIGURE 23.

The typical milk dealer in Chicago receives only part of the marketing margin between the farmer and the consumer. In this market, milk frequently passes through several hands: Country plant, bottling plant, vendor, and storekeeper. The study on this phase of the subject is incomplete, but figure 24 indicates approximately how much of the supply of bottled milk is handled by each agency, and the approximate margin for each.

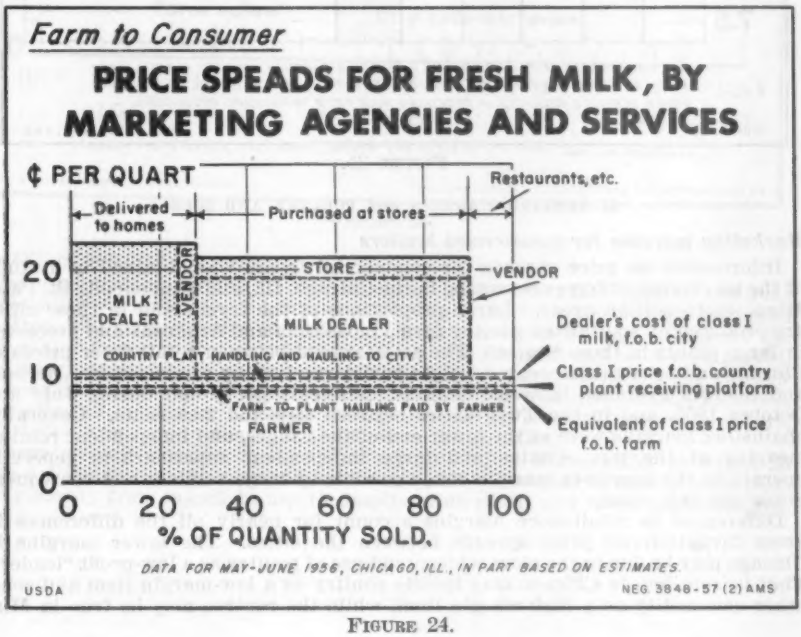

FIGURE 24.

Finding an average price paid by consumers in Chicago is difficult because of the many ways in which milk reaches them. It also is difficult to describe accurately the price received by farmers. The farmer producing milk for the Chicago market receives a price which is an average or blend of the prices established separately for each of several uses. Farmers who deliver milk directly to a plant in Chicago receive a higher price than those who deliver their milk to country plants. A Federal milk marketing order establishes the price for each use, and insures that farmers are paid the proper blend price. But milk plants may, and do, make some additional payments to farmers: They pay part of the cost of hauling the milk from the farm to the plant; they pay premiums to farmers who install bulk milk tanks, and they may pay other premiums for various reasons. The marketing margins for milk delivered by the farmer to a plant in the city, to a plant at about the center of the milkshed, and to a plant in the outer part of the milkshed are shown in figure 25. Some of the components of the margin are estimates based on data which are not yet complete.

In Chicago Milkshed, May-June 1956
COST OF FRESH MILK TO DEALERS AND RETURNS TO FARMERS
¢ PER QT.
10.0
9.5
9.0
8.5
8.0
7.5
CITY PLANT
PLANT IN ZONE 3
(85-100 Miles from City)
PLANT IN ZONE 10
(205-210 Miles from City)
Dealers cost f.o.b. city
Dealers cost f.o.b. country plant
Average of various premiums paid to farmers
Class I price f.o.b. country plant receiving platform
Equivalent of Class I price f.o.b. farm
* NOT COMPARABLE WITH COST OF MILK RECEIVED THROUGH COUNTRY PLANTS, INASMUCH AS PLANT INCURS ADDITIONAL COSTS IN RECEIVING, WEIGHING, TESTING AND OTHER SERVICES REQUIRED IN RECEIVING MILK FROM INDIVIDUAL PRODUCERS
USDA
NEG. 3850-57 (2) AMS

FIGURE 25.

MARKETING MARGINS FOR POULTRY AND EGGS

Marketing margins for commercial broilers

Information on price spreads for commercial fryers was obtained in a study of the marketing of fryers consumed in the Chicago, Ill., and Minneapolis-St. Paul, Minn., metropolitan areas. Large proportions of the fryers sold in these cities are produced on specialized poultry farms in Georgia and Arkansas and processed in large plants in those States. The gross spread between retail fryer prices in Chicago and prices (eviscerated weight basis) received by producers in Arkansas and Georgia averaged between 17.3 and 19.8 cents per pound during July and October 1955, and in the Twin Cities between 19.9 and 23.5 cents. Generally, chainstore margins were at the lower end of the ranges, and independent retailer margins at the top. Chains and large independent supermarkets generally operate on the narrower margins made possible by large volumes and consequent lower per-unit costs.

Differences in retail-store margins account for nearly all the differences in gross farm-to-retail price spreads between the cities. The lower margins in Chicago may be due to the more widespread use of poultry as a low-profit "leader." That is, retailers in Chicago may handle poultry as a low-margin item and some other commodity as a high-margin item, while the reverse may be true in Min-

neapolis-St. Paul. Thus, consumers in Minneapolis-St. Paul, while paying more for frying chickens than consumers in Chicago, may be paying less for some other foods.

Wholesalers' margins on fryers averaged from 2 to 3 cents per pound. Labor constitutes about 70 percent of a typical wholesaler's total costs; building costs, including fuel, power, and light, 11 percent; transportation, 9.5 percent; selling, 4.5 percent; overhead, 4 percent; and miscellaneous, 1 percent.

Processors in Georgia and Arkansas operated in 1955 on gross margins of about 7.5 cents per pound, eviscerated weight. Their costs per pound were about as follows: Assembly of fryers from farms, 0.75 cent; feeding birds at plant, 0.25 cent; labor on all plant operations through packaging, 3.00 cents; packaging material, 1.00 cent; miscellaneous expense and overhead, including profit, 1.25 cents; and freight out, 1.25 cents. Checks on marketing costs for fryers since 1955 indicate very little change since then.

The farm-to-retail price spread on frying chickens remained fairly constant through the last half of 1955 and the first 3 quarters of 1956 as shown in figure 26, based on data supplied by the Bureau of Labor Statistics and the Market News Service, USDA.

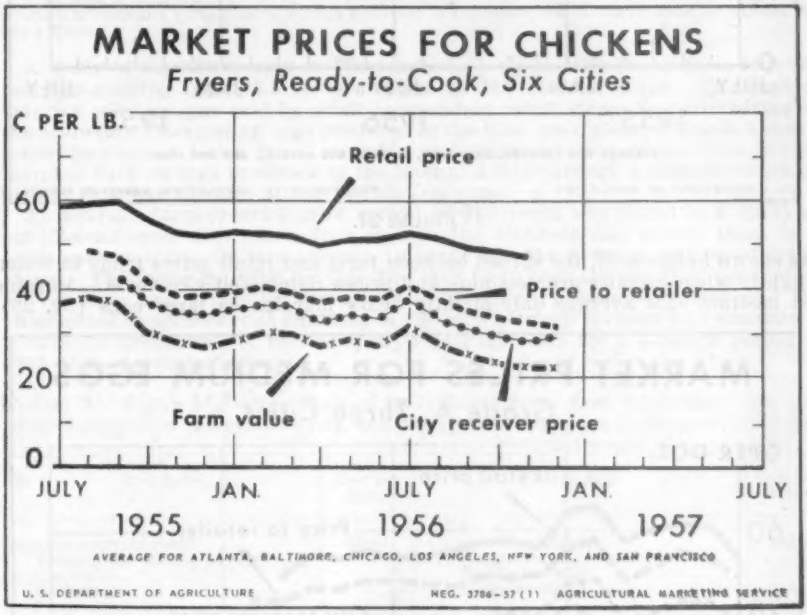

FIGURE 26.

Marketing margins for eggs

Farm-to-retail marketing margins on eggs were lower in 1956 than in any year since 1949. In major United States cities, the gross farm-to-retail price spread fell from 19.1 cents a dozen in 1949 to 17.8 cents a dozen in 1956. Eggs are the only major farm product on which margins have dropped in this 8-year period. The principal conditions underlying this trend of gradually declining egg marketing margins appear to be improvements in handling and distributing methods, shortening of marketing channels through bypassing certain types of handlers, and shifts in egg production into areas nearer large cities.

Farm-to-retail margins on eggs in five large United States cities averaged 23 cents a dozen during the year ending in June 1956. Margins on eggs remain relatively steady from month to month despite wide retail and farm price changes.

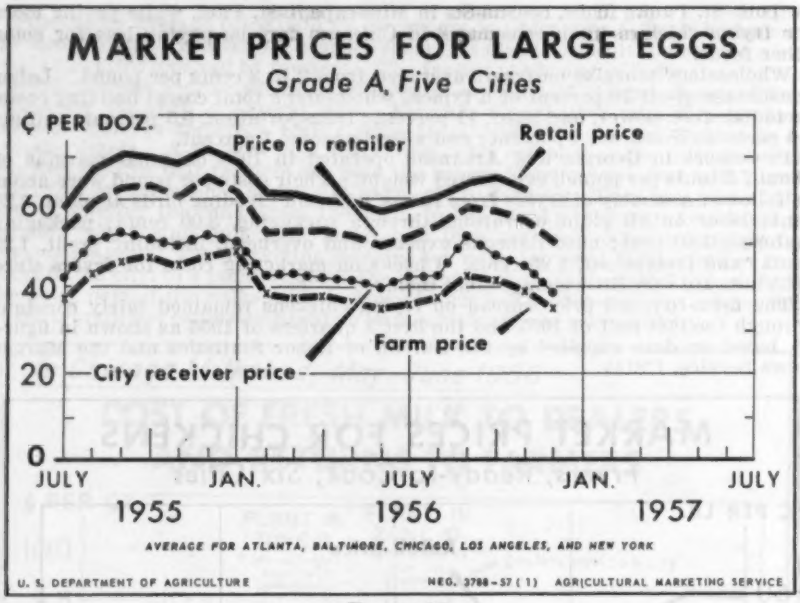

FIGURE 27.

As shown in figure 27, the spread between farm and retail prices tends to widen slightly when supplies are declining and prices rising, and vice versa. Margins on medium eggs average only slightly below margins on large eggs (fig. 28).

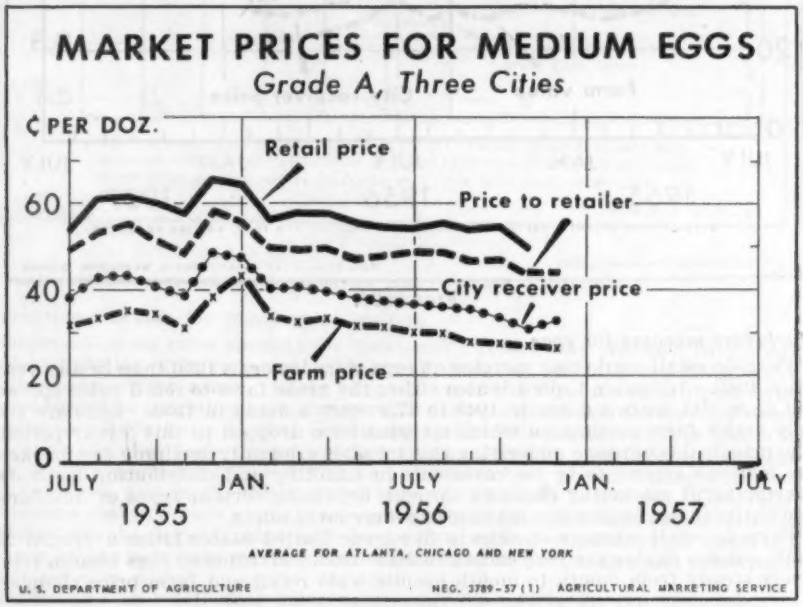

FIGURE 28.

Differences between cities in farm-to-retail egg margins are large, as shown in table 1, and may be the result of several factors, including (1) location of the city in relation to its major producing areas, (2) average grade yield of eggs

received, (3) methods of pricing eggs which make precise price comparisons among markets difficult to compute, and (4) differences in costs and efficiency of assembly, handling, and distributing firms.

TABLE 1.—*Eggs, large: Average retail and farm prices a dozen, marketing margins, and the farm share of the retail price, selected cities, July 1955–June 1956*

City	Price at farm [1]	Retail price	Farm-retail margin	Farm share
	Cents	*Cents*	*Cents*	*Percent*
Atlanta	44.0	63.2	19.2	70
Baltimore	43.6	67.8	24.2	64
Chicago	35.4	61.1	25.7	58
Los Angeles	44.2	59.4	15.2	74
New York	41.6	71.1	29.5	59
Average	41.8	64.5	22.7	65

[1] Price paid to farmers in New Jersey and Iowa for eggs marketed in New York; in Iowa for eggs sold in Chicago; in Iowa and Pennsylvania for eggs marketed in Baltimore, and in nearby areas for Atlanta and Los Angeles.

A study of marketing eggs in Washington, D. C., in 1954 found farm-to-retail margins ranging from 15.5 cents a dozen to 28.5 cents a dozen. The highest margins were on eggs sold by small independent retail stores and originating in the Midwest. Margins on eggs produced in the East were about 6.5 cents a dozen lower because of lower farm assembly and transportation costs. The lowest margins were on eggs produced in the East and sold through a chainstore which at that time had a policy of low margins on eggs.

An average farm-to-retail price spread of 21.5 cents was found in a study of an efficient large firm assembling eggs in the Midwest and selling them in a large eastern city. Of this amount, 10 cents was the average margin of retail stores. The lower margins for this firm may be in part the result of conducting all candling and cartoning operations at its country assembly plant and the elimination of nonessential handling of the eggs between farmers and consumers. A detailed breakdown of this company's average costs for a 4-month period in 1955–56 is shown in table 2.

TABLE 2.—*Eggs: Marketing costs of an efficient large firm assembling eggs and distributing them in an eastern city, and average retail margins, 4 months in 1955–56*

Cost item	Cost per dozen	Cost item	Cost per dozen
Country assembly plant:	*Cents*	City receiving plant:	*Cents*
Procurement (pickup at farm)	0.68	Warehouse	0.50
Candling	.74	Trucks and sales	1.75
Cartoning	.94	Miscellaneous	1.00
Loading out	.16		
Supervision	.33	Total	3.25
Supplies	3.50		
Commission	.31	Combined cost of assembly, transportation, and receiving	11.50
Miscellaneous	.54	Retail gross margin	10.00
Total	7.20		
Transportation	1.05	Farm-to-retail price spread	21.50

Marketing margins on turkeys

Farm-to-retail price spreads on fresh and frozen ready-to-cook turkeys sold by representative independent retailers in Washington, D. C., during the Thanksgiving and Christmas holidays of 1954 ranged from about 15 to 19 cents a pound; in Boston, Mass., from 15 to 23 cents a pound during the holidays of 1955; and in Cincinnati, Ohio, from 15 to 22 cents a pound during the 1955 holidays. Average margins in the three cities on hen turkeys, as shown in figure 29, were respectively 15.2, 21.0, and 16.7 cents a pound.

FIGURE 29.

Farm-to-retail price spreads during the same periods on ready-to-cook turkeys sold by chainstores in Washington ranged from 10 to 13.6 cents a pound; in Boston, from 15 to 19 cents a pound; and in Cincinnati, from 11.5 to 18 cents a pound during the holidays of 1955. Average margins on hen turkeys in the three cities were respectively 11.6, 18.8, and 14.0 cents a pound.

Costs of processing turkeys shipped to the Washington, D. C., area averaged 6.8 cents a pound; to the Boston area, 6.8 cents a pound; and to the Cincinnati area, 7.5 cents a pound. The approximate breakdown of these costs is: Assembly of birds from farms, 5.0 percent; plant labor, excluding office and packaging labor costs, 31.5 percent; packaging costs, 24.1 percent; administrative expenses, 5.6 percent; and overhead and miscellaneous expenses 33.8 percent.

Cost of transporting turkeys to Washington, D. C., from California in 1954 ranged from $3.50 to $4.09 per hundredweight; from Minnesota from $1.50 to $1.75 per hundredweight; and from Virginia from $0.73 to $1 per hundredweight.

Gross margins of wholesalers and jobbers on sales of small lots of ready-to-cook turkeys averaged 2.2 cents a pound in Washington, D. C., from 1.3 to 3.0 cents a pound in Boston, and from 2.9 to 5.2 cents a pound in Cincinnati.

Margins of chainstores on ready-to-cook frozen turkeys of all sizes sold during the 1954 Thanksgiving and Christmas holidays in Washington, D. C., ranged from zero to 3.8 cents a pound; in Boston during the holidays of 1955 from 4.9 to 8.5 cents a pound; and in Cincinnati from 3 to 9.5 cents a pound. In the same periods, margins of independent stores on ready-to-cook frozen turkeys of all sizes sold in Washington ranged from 3 to 10 cents a pound; in Boston, from 3.8 to 10 cents a pound; and in Cincinnati, from zero to 9.1 cents a pound. During the first 10 months of 1954 and 1955 when only small volumes of turkeys were sold, chainstore margins were substantially larger in all three cities.

Differences among the cities in farm-to-retail price spreads on turkeys are the result, in part, of differences in transportation and processing costs among the principal areas supplying these cities. The remaining differences appear to be the result of variations in policies of retail stores, particularly chains, on the use of turkeys by stores as low-margin sales leaders and differences in margins taken by wholesalers.

MARKETING MARGINS FOR SUGAR

The farm value of a pound of sugar increased from 1.5 cents in 1940 to 3.6 cents in 1950 and to 4 in 1956, based upon farmers' returns from sugar beets. However, total marketing margins have increased almost steadily since 1940. The farmer's share in the retail price of sugar was 29 percent in 1940; 51 in 1945; 36 in 1950; and 38 in 1956. Adjusted for Government payments the percentages were 40 in 1940; 64 in 1945; 45 in 1950; and 46 in 1956. Under the Sugar Act domestic producers receive these payments from the Federal Treasury and processors pay an excise tax on the manufacture of sugar. This tax amounts to less per pound than do the Government payments to producers.

MARKETING MARGINS FOR VEGETABLE OILS

Changes in Farm Value and Marketing Charges[1]

Farm value of a pound of oil in soybeans or cottonseed has declined from the 1945 level despite rising consumer prices in the retail market. For soybean oil the average decline has been 16 percent, while the average marketing charges for soybean oil in margarine have increased 36 percent. Marketing charges for soybean oil marketed in shortening have increased 78 percent.

Farm value of the oil in cottonseed declined 27 percent. The increase in marketing charges for cottonseed oil in the form of margarine was 14 percent. Although the decline in farm value was 11 percent greater for cottonseed oil than for soybean oil, the increase in charges for marketing cottonseed oil in shortening was only 73 percent compared with 78 percent for soybean oil.

Costs of railroad transportation for soybean oil increased 92 percent between 1945 and 1955 and those for cottonseed oil 72 percent. In 1947 wages of employees of cottonseed oil mills represented 6 percent of the value of production and in 1954 about 8 percent. Employee wages in soybean oil mills showed less of an increase, apparently due to mechanization. In both the margarine and shortening industries wages increased by an amount equal to about 1.5 percentage points of the value of shipments. The cost of material, fuel, electricity, and supplies decreased by about 1.5 percentage points of the value of shipments.

REGULAR FUNDS

MARKETING MARGINS FOR COTTON PRODUCTS

In addition to the margins and costs studies made with earmarked funds for selected foods, the Agricultural Marketing Service has continued its studies of cotton marketing on regular funds. The data relating to the retail values of a group of 42 cotton articles of clothing and household furnishings and to farm values of equivalent quantities of cotton indicate that from 1946 to 1956 returns to farmers ranged between 12 and 14 percent of the consumer's dollar (fig. 30).

[1] Average of four cities, New York, Atlanta, Chicago, and Los Angeles.

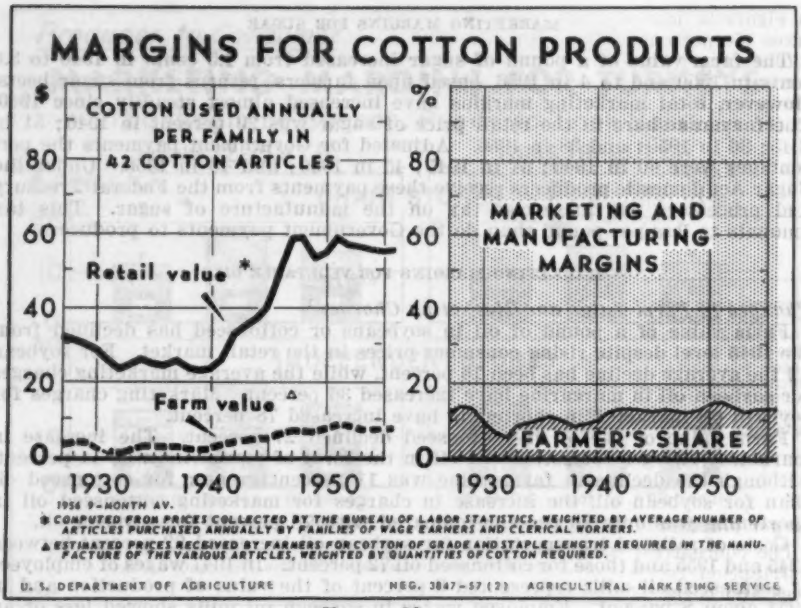
MARGINS FOR COTTON PRODUCTS
$
COTTON USED ANNUALLY PER FAMILY IN 42 COTTON ARTICLES
80
60
40
20
0
Retail value *
Farm value △
1930
1940
1950
%
MARKETING AND MANUFACTURING MARGINS
FARMER'S SHARE
1956 9-MONTH AV.
* COMPUTED FROM PRICES COLLECTED BY THE BUREAU OF LABOR STATISTICS, WEIGHTED BY AVERAGE NUMBER OF ARTICLES PURCHASED ANNUALLY BY FAMILIES OF WAGE EARNERS AND CLERICAL WORKERS.
△ ESTIMATED PRICES RECEIVED BY FARMERS FOR COTTON OF GRADE AND STAPLE LENGTHS REQUIRED IN THE MANUFACTURE OF THE VARIOUS ARTICLES, WEIGHTED BY QUANTITIES OF COTTON REQUIRED.
U. S. DEPARTMENT OF AGRICULTURE
NEG. 3847-57 (2) AGRICULTURAL MARKETING SERVICE

FIGURE 30.

Marketing margins and the farmer's share of the consumers' dollar vary from one type of cotton article to another. During the 6 years ending with 1956, the farmer's share of the consumer's dollar averaged about 18 percent for overalls, 16 percent for work shirts, and 8 percent for business shirts. These proportions decreased from 1951 to 1956

MARKETING MARGINS FOR TOBACCO

Distribution of the margin on cigarettes

The portion of the retail value of cigarettes going to the growers increased substantially with World War II, it fell off somewhat after the war but is now 15 percent of the retail price compared with 8 percent prewar. Conversely, the share going to the manufacturers and tobacco dealers was reduced substantially during the war years with price controls. It increased to about 20 percent in 1953–55 compared to 26 percent in 1938–40. The Federal excise tax which took 43 percent of the retail value prewar and during the war, now takes approximately 35 percent. Both the cost of distributing cigarettes through wholesale and retail outlets and the estimates of cigarette taxes levied by State and local governments have increased, the former from 15 percent to 20 percent and the latter from 7 percent to 11 percent (table 3).

TABLE 3.—*Distribution of margin as proportion of retail price of cigarettes*

	1938–40	1943–45	1953–55
	Percent	*Percent*	*Percent*
Retail price	100.0	100.0	100.0
State tax	6.9	7.3	10.8
Distributors, wholesale, and retail	15.3	18.9	19.9
Federal excise tax	43.1	42.8	34.6
Manufacturer and dealers	26.4	14.0	19.5
Farm value	8.3	17.0	15.2

Retail cigarette prices have increased less than most consumer prices since prewar, 64 percent compared with 91 percent for the consumer price index. The prices of cost items entering into the margin between the grower of cigarette tobacco and the consumer of cigarettes have increased at varying rates. Wages

in cigarette manufacture have increased 200 percent, State and local excise taxes 150 percent, all costs of distribution 109 percent, the price to the cigarette manufacturer (before excise taxes) 57 percent, and the Federal excise taxes 30 percent. Wages in the distributive trades likewise have increased by 170 percent. The price of cigarette tobaccos, flue-cured, burley, and Maryland, have increased on the average by 198 percent (table 4).

TABLE 4.—*Percentage increase in retail price of cigarettes and costs, 1938–40 to 1953–55*

Item	Percentage increase
Consumer price index	91.3
Retail price cigarettes	64.0
Cost of wholesale and retail distribution	109.1
State excise taxes	150.0
Wages—wholesale and retail distribution	170.4
Federal excise tax	29.7
Manufacturers' price excluding excise tax	56.6
Wages—cigarette manufactures	200.0
Farm price, flue cured, burley, and Maryland	197.9

MARKETING ORGANIZATION, PRICES, AND TECHNOLOGY

Larger plants and firms

The concentration of ownership and control of food and fiber processing and distribution facilities is causing some major realinements in marketing practices and costs. Large-volume, multiple-unit retail organizations are becoming increasingly important in determining the grades, qualities, and conditions under which food can be bought from farmers and processed and sold to consumers (fig. 31). While the large-volume multiple-unit retail organizations came into existence because of opportunities to reduce costs by eliminating

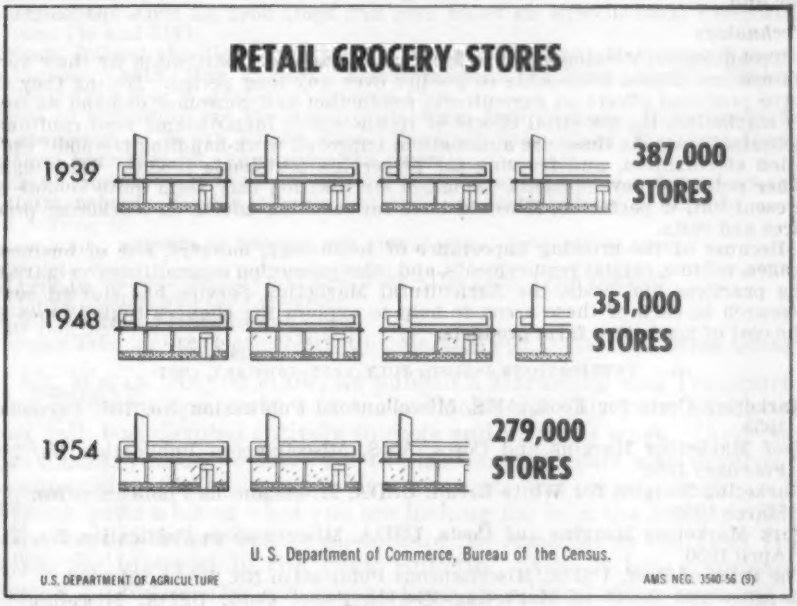

FIGURE 31.

certain types of marketing services and increasing the output of labor and capital through high-volume operations, they have encouraged the use of other practices that are of great importance in marketing. Of particular significance is the widespread use of Federal grades in place of proprietary brands for fresh meats, fruits, and vegetables.

The trend toward the growth of larger processing and distribution facilities, which depends on high-volume operations, has been encouraged no doubt by the rapid rise in the amounts of capital required for plants, stores, and facilities, by collective bargaining, and by increased importance of promotional expenditures. Small-scale operators have adopted various promotional schemes to compete with large-scale operators. One of the more important schemes has been food trading stamps. Because of the acceptability and appeal of trading stamps to consumers, all types and sizes of retail stores are now using them. The competitive effect of the stamps on marketing practices and costs has been especially great since 1954. As a result, the Agricultural Marketing Service is now studying a number of new problems that have arisen as a result of the widespread use of stamps.

Prices and margins

Over a longer period, the margin tends to parallel the costs of marketing, but changes in monthly farm-retail price spreads may sometimes show little correspondence to changes in marketing costs. This is particularly true for meat products, eggs, and fresh fruits and vegetables for which rapid fluctuations in supplies and prices are not uncommon.

Furthermore, marketing margins for individual products do not always follow the general trend. Margins for individual products are more variable than those for product groups and may not be closely related to the costs of marketing the specific product. Retailers, wholesalers, and other multiproduct marketing firms tend to look upon their entire organization as a unit. They contend that it is meaningless to attempt to explain the margin for any one product or group of products on the basis of costs because pricing policies must be based on net returns from the sale of all products. We are finding, therefore, that food wholesalers and retailers are tending to "load" a fixed dollar-and-cents handling charge on each item regardless of upward or downward changes in their buying prices. This pricing policy is becoming more pronounced with the introduction of guaranteed weekly wages, social security, fringe benefits, and heavier investments in fixed and working capital. All such fixed charges tend to encourage full-volume operations and an intensification of sales effort as ways of holding down costs per unit.

Technology

Technological developments in food processing and distribution by their very nature are almost impossible to predict over any long period. But as they do have profound effects on agricultural production and consumer demand as well as marketing, the potential effects of technological innnovations need continual appraisal. Among these are automation, improved work-handling methods, radiation sterilization, and freezing for preserving perishable foodds. Like many other potential developments, radiation sterilization may seem quite remote at present but, if perfected, it would have far-reaching effects on marketing practices and costs.

Because of the growing importance of technology, mergers, size of business, wages, volume, capital requirements, and sales promotion expenditures on marketing practices and costs, the Agricultural Marketing Service has started some research in each of these areas to help to explain the changes taking place in the cost of marketing farm products.

PUBLICATIONS ISSUED, JULY 1955–JANUARY 1957

Marketing Costs for Food, AMS, Miscellaneous Publication No. 708, December 1955

Beef Marketing Margins and Costs, AMS, Miscellaneous Publication No. 710, February 1956

Marketing Margins for White Bread, USDA, Miscellaneous Publication No. 712, March 1956

Pork Marketing Margins and Costs, USDA, Miscellaneous Publication No. 711, April 1956

The Price of Beef, USDA, Miscellaneous Publication No. 718, April 1956

Margins and Costs in Marketing Florida Sweet Corn, USDA, Miscellaneous Publication No. 719, April 1956

Marketing Costs and Margins for Fresh Milk, USDA, Miscellaneous Publication No. 733, October 1956

Food Transportation and What It Costs Us, USDA, Miscellaneous Publication No. 738, November 1956

Changing Patterns in Fluid Milk Distribution, AMS, Marketing Research Report No. 135, August 1956

Do Trading Stamps Affect Food Costs, AMS, Marketing Research Report No. 147, January 1957
The Price of Milk, AMS, Leaflet No. 409, October 1956

REPORTS ISSUED IN OTHER PUBLICATIONS, JULY 1955–JANUARY 1957

Farmer Gets Less of Food Dollar, Agricultural Situation, February 1956
Dairy Marketing Margins, Agricultural Situation, March 1956
Beef Marketing Margins, Agricultural Situation, March 1956
What's the Price Spread Between What the Farmer Gets for Beef and What Consumers Pay For It? Agricultural Situation, March 1956
Who Gets the Steer Money? Agricultural Situation, April 1956
Who Gets the Money? (Pork Marketing Margins), Agricultural Situation, May 1956
What Every Hog Producer Should Watch For, Agricultural Situation, June 1956
Marketing Margins are Wider for Beef and Pork, Marketing Activities, April 1956
Marketing Margins for White Bread, Marketing Activities, May 1956
Trends in the Cost of Labor in Marketing Farm Products, The Marketing and Transportation Situation, April 1956
Marketing Margins for Turkeys, The Marketing and Transportation Situation, April 1956
1957 Outlook Issue, The Marketing and Transportation Situation, October 1956
Marketing Costs for Fresh Milk, Agricultural Marketing, November 1956
Who Gets the Money for Eggs, Agricultural Marketing, November 1956
Use of Trading Stamps in Marketing Food, Agricultural Marketing, January 1957
Trends in Marketing Costs, Agricultural Marketing, January 1957

OTHER DISSEMINATION OF PRICE SPREAD INFORMATION, JULY 1955-JANUARY 1957

USDA Television Service Package Program No. 147 Where Does Your Food Dollar Go, April 27, 1956 (beef and pork based on Miscellaneous Publication Nos. 710 and 711).
Trends Behind the Hog Situation, by Gerald Engelman, Marketing Research Division, AMS, May 7, 1956. A statement to the North Central Regional Meat-Type Hog Workshop, Columbus, Ohio.
Costs of Unloading and Elevating Grain From Rail Cars and Motortrucks, Respectively, at North Pacific Coast Terminal Tide Water Elevators During Crop Year 1954–55 (Administrative report).
Other: Numerous reprints of studies in newspapers, trade publications, and farm papers. Special releases and talks by State Extension Services.

REPORTS IN PROCESS FOR PUBLICATION, JANUARY 31, 1957

Trends in Marketing Costs and Practices—The Long Term Outlook
Trading Stamps and the Consumer
Lamb Marketing Margins and Costs
Orange Tree to Breakfast—Marketing Margins and Costs for Florida Oranges

Mr. WELLS. As you know, we publish a Marketing and Transportation Situation quarterly and the outlook issue this year, which was last fall, was devoted entirely to costs and margins work. And then the January issue we have for the last several years also devoted to summarizing and bringing to date our costs and margin studies. So I think quite a bit of what you are looking for is in the January Situation report, which brings up to date the material in the Beef Bulletin, the material in the Pork Bulletin. Also it has a summary of our studies on the cost of handling and distributing eggs, which has been a subject of considerable interest to a great many people over the last 2 or 3 months.

With your permission, Mr. Trelogan, Mr. DeLoach and I will work up the statement you have in mind. We will endeavor to summarize, Mr. Chairman, the main findings in the current situation, and also include a list of our costs and margin publications to date.

We will not go into all the subsidiary editorial, television kit, and press release kind of materials, which we would like to get more and more of as time goes on.

STRENGTHENING THE MARKETING PROGRAM

Mr. WHITTEN. I notice you have substantial increases in your budget. We will ask in detail about those when we come to the particular sections. Are there any general highlights you would like to call to the attention of the committee, or should we wait until we get to the particular sections?

Mr. WELLS. Mr. Chairman, I have tried to say in my general statement here that a good marketing program is an essential part of a good agricultural program. It is by no means all of it. I think that the day-to-day kind of work which the Agricultural Marketing Service is doing was in large part neglected over a considerable period. However, during the last several years the Secretary of Agriculture and this committee and other congressional committees interested in agriculture have been helping to develop what I consider to be a real marketing program.

When we go on to research and to the marketing services, Mr. Herrmann and Mr. Lennartson can tell you people about some real progress that is being made.

We set out 3 years ago, when the Agricultural Marketing Service was organized, to try to develop a systematic and orderly increase in marketing work covering both marketing services and marketing research. We have come before you each year for the last 3 years and asked for increases in a number of fields. We are once again asking for increases similar to what we asked for in the preceding years. We believe that the marketing program should grow gradually, because we must find qualified men, we must find ways of working with the State organizations, and with the private business organizations that we necessarily work with, and we think we are now going at a rather good rate.

But, still, there are questions of personnel, there are questions of arrangements and working relations which take time to settle. For example, we have not been coming to you and asking for an appropriation sufficient to strengthen all the leased wire service in 1 year, appropriations sufficient to solve all the regulatory problems in 1 year. We have had a gradual approach in mind. We have been very fortunate for 3 successive years in being able to maintain a gradual rate of growth, with the support of this and the Senate committee.

CONTRIBUTION TO CIVIL SERVICE RETIREMENT FUND

We are asking this year for an increase in appropriations of about $4 million. I would call your attention to the fact that almost half of that increase, however, is for the employer's contributions to the civil-service retirement fund. It is shifting this Government obligation from the way it was previously handled on a centralized basis through the Civil Service Commission into a direct charge against the fund of each agency. This almost $2 million includes not only the retirement allowance for the people who are paid from direct appropriated funds, but also includes the retirement allowance or its equivalent amount for our inspection, grading, and classification personnel who are in many instances paid from fees. We believe that

this is a perfectly reasonable request: that we cover the retirement allowances for our grading and inspection services as well as our regular Federal employees. We think that some very adverse effects and difficult problems could result from raising the fees on the marketing services by an amount sufficient to take care of the retirement allowance. I say that is almost one-half of our total increase, almost $2 million.

MARKETING RESEARCH

We are asking for $1 million, approximately one-fourth of the increased amount, for increased marketing research. We think that we can spend this to advantage. Now, it may, of course, be that personnel and contracting situations will not allow us to spend all of those funds as we would like. Last year we turned back from our research and agricultural estimates subappropriation—I think it was $244,000.

Mr. WHITTEN. I don't see why you didn't get your picture in the paper on that one—it is so unusual in Government.

Mr. WELLS. What I am saying is this. We are trying gradually to build a much-needed research program. We are contracting considerably in excess of the minimum which is written into the appropriation bill. If we cannot use this money to get the kind of personnel we want, we would prefer either to contract it or turn it back. On the other hand, I am making a plea with the committee. You recognize the kind of problem we are involved in.

Mr. WHITTEN. I have never been one to get after the Department for saving money. And I think sometimes we force people to waste money by saying, "You did not spend it all last year; therefore we will give you that much less this year." I think that is a poor approach.

I would like you to put in the record, in connection with research, the research contracts you have outstanding, the organization concerned, and how many years they have been in existence.

Now, a few years back this committee started pressing for research by contract. We did that on the basis that, when the problem was met, you could end the contract. If you handle the work through the regular civil-service employees, the tendency is to find something for the employees to do, so you keep the staff on and on.

I have been very unhappy, however, by reports in some of our investigations where it would appear that some of this contract research has become a source of income to various private institutions. In a few instances it looked like it was a source of income to institutions that were wholly inadequate, you might say, to carry out any type of research work. I would say that this situation was the exception rather than the rule. But it does cause us to be interested in just how well you are handling this contract business, and whether we have valuable projects or whether it is just a means of making allocations to certain institutions throughout the United States.

Mr. WELLS. We have a list of contracts now in effect, Mr. Chairman. We also have a list of all the contracts that have been entered into in the marketing research field since the beginning of the Research and Marketing Act.

Mr. WHITTEN. I believe it would be well to put the whole thing in the record so we can see what the picture is.

(The material referred to is as follows:)

Agricultural Marketing Service (Includes Farmer Cooperative Service)

Summary of RMA contracts executed from fiscal year 1948 through Jan. 31, 1957 under title II, Agricultural Marketing Act

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957 [1]	Total 1948–57 [2]
Number of contracts negotiated by type of contractor:											
(a) Agricultural experiment stations		6	6	13	6	6	2	8	7	3	57
(b) Other colleges and universities:											
1. State		2	3	2	1	2	3	3	6	1	23
2. Other	2		4	3			2	1	5		17
(c) Other public agencies		2	2	2	1	1		1			9
(d) Private research firms		4	8	2	3	4	5	11	14	5	56
(e) Trade associations	4	1	1		3	1	2	1	1	1	15
(f) Business firms	11	10	17	9	4	6	1	2	7	2	69
(g) Purchase order contracts (predominantly business firms)			27	4	19	11	18	2	4	18	103
Total	17	25	68	35	37	31	33	29	44	[1] 30	[2] 349
Amount of Federal funds obligated by type of contractor:											
(a) Agricultural experiment stations		31,300	59,500	136,000	74,300	71,500	48,000	174,000	53,100	69,455	717,155
(b) Other colleges and universities:											
1. State		44,000	49,200	37,700	30,250	41,950	44,870	85,221	66,200	20,000	419,391
2. Other	70,000		62,000	50,825	21,500	12,155	28,930	2,480	9,320		257,210
(c) Other public agencies		75,000	32,500	61,000	48,000	35,000	39,000	31,000			321,500
(d) Private research firms		70,204	263,622	140,070	92,815	105,725	221,180	473,889	408,292	169,045	1,944,842
(e) Trade associations	159,000	168,000	145,000	70,000	185,000	208,000	172,450	74,000	77,000	106,000	1,364,450
(f) Business firms	43,345	86,705	60,615	112,664	68,300	50,700	13,775	34,801	193,185	21,848	685,938
(g) Purchase order contracts (predominantly business firms)			3,976	1,226	9,425	3,152	6,291	619	1,046	3,937	29,672
Total	272,345	475,209	676,413	609,485	529,590	528,182	574,496	876,010	808,143	[1] 390,285	[2] 5,740,158
Amounts contributed by others (all for contracts with private research firms)		10,000	47,525	51,450	55,250	54,475	72,480	70,730	70,730	[1] 56,648	[2] 489,288
Amount of contract floor (Average term of contract, 2¼ years.)	[3]	[3]	[3]	[3]	[3]	[3]	500,000	675,000	675,000	675,000	

[1] Note this column is for 1st 7 months of 1957 only.

[2] Fiscal years 1948 through 1956 and 1st 7 months of fiscal year 1957.

[3] Not readily available for fiscal years 1948–53.

Agricultural Marketing Service

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
12-25-010-105	c	Advisory Board for the Promotion of Fresh California Bartlett Pears, San Francisco, Calif.								11,000			Work on the development and evaluation of improved shipping containers for pears.	2
A-1s-33041	a	Alabama Agricultural Experiment Station, Auburn, Ala.				6,000							Economic study of peanut storage structure and equipment requirements in Southeast peanut-producing area.	1
12-25-010-195	b-1	Alcorn Agricultural and Mechanical College, Lorman, Miss.									19,470.00		Determining opportunities for improving marketing practices employed by Negro farmers producing livestock.	2½
A-1s-31942	d	Alderson & Sessions, Philadelphia, Pa.			30,672 10,000								Measurements of costs and margins in marketing farm products.	1
A-1s-33013	d	do				29,620 7,250							Data from retail stores and handlers as to commodities, brands, date of purchase, grade, cost, etc.	1
A-1s-30909	e	American Institute of Baking, Chicago, Ill.	20,000	15,000.00									Studies of equipment wrapping and packaging materials and methods and handling and marketing practices which may cause or contribute to flavor deterioration and staling of bakery products.	4
A-1s-33463	e	do					8,000						Methods for testing the functional values of commercially frozen egg products.	3
A-1s-30933	e	American Meat Institute Foundation, Chicago, Ill.	50,000	78,000.00									Improvement in the standards for the market classes and grades of livestock meats.	4

See footnotes at end of table.

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)—Continued

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
12-25-010-8	b-2	American University Social Science Research Bureau, Washington, D. C.							5,930	300			Tabulation of data for a study of family purchase patterns of citrus products.	1
12-25-010-89	b-2	do								2,180			do	1
12-25-010-96	a	Arizona, University of Board of Regents, Tucson, Ariz.								45,000			A study of food habits of the kaphra beetle in its natural environments.	3
A-1s-33430	b-1	Arkansas, University of, Fayetteville, Ark.				10,500	8,800						Methods for reporting market news information of help to poultrymen, dairymen, and cattle feeders in areas where needed.	2½
A-1s-33833	b-1	do							10,600				Appraisal of broiler market news in the Arkansas producing area.	2
12-25-010-100	d	Audits & Surveys, New York, N. Y.								75,000			A survey of fiber preference of teen-age girls among selected items of clothing.	2
12-25-010-196	d	do									39,500.00 6,000.00		Measuring the movement of apples and winter pears through retail stores in Philadelphia, Pa.	1
12-25-010-460	d	do										35,000	Measuring the movement of apples through retail stores in Philadelphia, Pa.	1
12-25-010-208	d	Babson Institute, Babson Park, Mass.									13,487.00	5,513	A study of the import of merchandising of beef by Federal grade on the market organization and structure merchandising practices in the distribution of beef.	2
A-1s-32664	f	Baer Bros., Inc., Hagerstown, Md.			5,000								Prepackaging of perishable horticultural products.	4

A-1s-33702	f	....do....						3,000					Investigation of economic feasibility of prepackaging fresh peaches in a tomato prepackaging plant.	2½
A-1s-31910	d	Battelle Memorial Institute, Columbus, Ohio.		9,100.00	[1] 14,000								Developing improved equipment and techniques for ginning and associated processes to minimize losses and increase salability of cotton and cottonseed.	4
A-1s-31949	d	....do....			10,000	5,000							Development of new and improved methods for grading oilseeds and oilseed products and analysis of relationships of oilseed grades to outturn and quality of these products.	2
12-25-010-202	d	....do....									20,000.00		A study of the costs and benefits of integrating processing of inedible poultry byproducts with poultry slaughtering and evisceration.	1
A-1s-31926	d	Brookings Institution, Washington, D. C.			62,500								The general economics of marketing.	4
A-1s-31922	d	Burgess, Ralph E., New York, N. Y.		[2] 30,000.00									Survey and analysis of market utilization and demand for mohair.	2
A-1s-33470	e	California Grape & Tree Fruit League, Sacramento, Calif.					19,000						Developing cheaper and improved containers for western plums.	2
12-25-010-7	e	....do....							20,450				Further work on containers for plums.	2
A-1s-33433	b-1	California, University of, Institute of Engineering Research, Berkeley, Calif.				11,200							Visual inspection of products for defects, blemishes, and other surface characteristics.	2
A-1s-33440	a	California, University of, Agricultural Experiment Station, Berkeley, Calif.				10,000							Develop method for determining tenderness and maturity requirements of frozen lima beans.	3

See footnotes at end of table.

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)—Continued

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
12-25-010-102	b-1	California, University of, Board of Regents, Berkeley, Calif.								26,421			A study of the visual environment as related to performance of egg sorting.	3
12-25-010-201	b-1	do									10,000.00		An economic analysis of trade in California-grown floricultural crops.	2
12-25-010-453	a	do										25,239	Study to determine the influence of the type of formulations used in protective sprays for stored wheat when applied as solutions, emulsions, or wettable powders.	3
12-25-010-456	a	do										31,266	Study of the relation of moisture content and temperature of stored grain to the effectiveness of common grain fumigants.	2½
A-1s-30928	b-2	Chicago, University of, Chicago, Ill.	35,000										The general economics of marketing.	2½
A-1s-32695	b-2	do			9,500		10,000	1,000					Price supply and consumption analysis for farm products.	3½
A-1s-33435	b-2	do				15,000		8,500					Determine levels of storage stocks of grain.	3
12-25-010-4	b-2	do							23,000				A study of marketing agricultural products.	2½
A-1s-32670	b-1	Clemson Agricultural College, School of Textiles, Clemson, S. C.			19,000	15,000							Improving market outlets for various kinds of cotton in relation to merchandising procedures.	2
A-1s-33705	b-1	do						15,000					Process for evaluating bleaching, dyeing, and mercerizing properties of different varieties of cotton.	2

12-25-010-452	f	Colley, Douglas G., & Associates, Arlington, Va.									12,500.00		A study of the costs of canning vegetables.	3
A-1s-32697	b-1	Connecticut, University of, Storrs, Conn.			2,200		450						The general economics of marketing.	2
A-1s-30916	f	Cox & Stevens Aircraft Corp., Mineola, Long Island, N. Y.	15,000										Develop improved weighing equipment for livestock marketing.	4
12-25-010-90	d	Crossley; S-D Surveys, New York, N. Y.								19,500			Measuring effects of specified merchandising practices on sales of butter.	1
12-25-010-212	d	do									74,800.00		Survey of men's preferences among selected clothing items.	1½
A-1s-32653	f	Deane Agricultural Service, St. Louis, Mo.			30,000	22,000	19,000						Meeting dairy market sanitation and health requirements most economically.	4
A-1s-30905	f	Doty Technical Laboratory, Kansas City, Mo.	7,000	7,297.50									Develop new method and official standards to measure bread baking quality of wheat.	4
A-1s-33002	f	do				5,000							Testing identified samples of wheat to determine reliability of new test devised by Government as a measure of a potential baking quality of wheat.	4
2-25-010-455	f	Drews, Harry E., Chicago, Ill.										11,848	Designing and constructing an experimental egg-grading line.	1
A-1s-33710	f	Dun & Bradstreet, Inc., New York, N. Y.						13,000					Opinions and practices of manufacturers of insulated wire and cable regarding fibers.	2
2-25-010-190	f	do									75,650.00		Survey of marketing practices and channels used by industrial food services.	1½
A-1s-31915	f	Fisher Flouring Mills, Seattle, Wash.		5,000.00									Develop new methods and new official standards to measure bread-baking quality of wheat.	4
A-1s-33028	a	Florida Agricultural Experiment Station, Gainesville, Fla.				11,500							Movements by types of carrier and reasons for selection for shipment of citrus fruits and juices.	2

See footnotes at end of table.

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)—Continued

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
12-25-010-454	f	Frazer & Torbet, Minneapolis, Minn.										10,000	Research on improved office methods and equipment among wholesale food distributors for inventory control, sales accounting, and shipping of merchandise.	1½
12-25-010-87	d	Fruit Industries Research Foundation, Yakima, Wash.								12,000			Production of a motion picture on apple handling, sorting and packing.	1½
12-25-010-203	d	do									23,000.00		Designing improved apple storage and packing-houses.	2
A-1s-32666	a	Georgia Agricultural Experiment Station, Athens, Ga.			5,000	1,500							Development of new and expanded market outlets for oilseeds, fats and oils, and their products.	2
A-1s-30915	b-2	Harvard University, Cambridge, Mass.	35,000										The general economics of marketing.	2½
A-1s-32694	b-2	do			18,000								do	3
A-1s-33436	b-2	do				33,725	11,000	2,655					Improved procedure for collecting and using food expenditure data with reference to meats, and foods used instead of meats.	3½
A-1s-33427	f	Hermes Associates, Santa Clara, Calif.				11,000							Packaging fresh topped carrots.	2
A-1s-33001	f	Hughes Livestock Co., Stanford, Mont.			750								Skirting and sorting wool at ranches, concentration points, and warehouses.	4
A-1s-30944	a	Illinois Agricultural Experiment Station, Urbana, Ill.		4,000.00									Function of futures trading as a means of reducing inventory risk and its consequent effects on feed costs.	4
A-1s-33011	a	do				10,000							Costs and margins on eggs	3
A-1s-33439	a	do				5,000							Hog-buying practices and policies in economic efficiency of operating meat packing plants.	2

A-1s-33441	a	do				6,000							Importance of factors accounting for changes in prices of seeds of principal crops used for hay and pasture.	1½
A-1s-33707	a	Illinois, University of Urbana, Ill.						8,400					Research relating to short-time price movements of farm products, with special reference to corn, soybeans, and hogs.	2½
A-1s-30906	f	Ingman Laboratories, Minneapolis, Minn.	5,250	7,506.00									Develop new method and new official standards to measure bread-baking quality of wheat.	4
A-1s-30946	d	Industrial Surveys, Chicago, Ill.		34,925.00									Survey of marketing of fruits, fruit products, and tree nuts.	1½
A-1s-31948	d	do			29,500								Measurement of costs and margins in marketing farm products.	4
A-1s-32654	d	do			[3] 82,900 25,500 2,000 2,500	[3] 82,900 2,500 [4] 21,250							Consumer purchases of certain fresh, processed, and dried fruit and fruit products.	2
A-1s-32668	d	do			[3] 16,075	[3] 20,000	[3] 21,700	[3] 22,000					Retail availability and inventories of certain fresh and processed fruits and fruit products.	4
A-1s-33446	d	do					[3] 86,400 [3] 2,400	[3] 86,950	[3] 78,760				Consumer purchases of certain fresh; processed, and dried fruit, and fruit products.	3
A-1s-33693	f	International Business Machines, New York, N. Y.					17,000						Card punching, verifying, tabulating, and abstracting data secured on household use of fats and oils and related products.	1
12-25-010-213	f	do									7,500.00		Computation of elasticities of demand with respect to income of major food groups.	1
12-25-010-104	d	International Research Associates, Inc., New York, N. Y.								58,000			A survey of consumer preferences for peanuts and tree nuts.	1
A-1s-32673	a	Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa.			10,000								Improving the effectiveness of wholesale market news services.	2
A-1s-33040	a	do				17,500							Evaluation of equipment and methods in lard production as related to marketing.	2

See footnotes at end of table.

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)—Continued

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
A-1s-33690	a	Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa.					10,000						Cost and economic effects of storing grain in various grain locations.	4
A-1s-33808	a	do						20,000					Study of the costs and benefits from treatment and disposal of dairy processing plant wastes.	4
A-1s-33817	a	do						4,000					Study of operating costs and efficiency in mixed feed industry in Iowa and bordering States.	1
A-1s-33837	a	do							12,000				Comparative costs of quality deterioration and shrinkage of corn in different types of shrinkage in storage.	2
12-25-010-191	a	do								40,000			A study of botanical and plant pathological problems involved in corn storage.	3½
12-25-010-97	a	Iowa Agricultural Experiment Station, Ames, Iowa.								10,000			A comparative analysis of alternative methods of purchasing ingredients and merchandising formula feeds.	1½
A-1s-33688	a	Kansas State College of Agriculture and Applied Science, Manhattan, Kans.					10,000						Costs and economic effects of storing grain in various locations.	4
12-25-010-13	a	do								27,000			Marketing of dehydrated alfalfa.	4
12-25-010-98	a	Kansas Agricultural Experiment Station, Manhattan, Kans.								16,000			A study of the costs of quality change and shrinkage of wheat in different types of storage.	3
12-25-010-92	b-1	Kansas, University of, Lawrence, Kans.								38,800			A study of marketing vegetable fat frozen desserts.	4
12-25-010-93	f	Leidesdorf Co., S. D., New York City.								20,000			A study of cost and efficiency in wholesaling frozen foods.	3
A-1s-33012	f	Lindquist, Roy C., Chicago, Ill.				2,500							Cost and operating data on retailing of meats.	1

A-1s-33689	f	do					1,800						Cost and operating data pertaining to retailing meats and meat products.	2
A-1s-31928	d	Little, Arthur D., Inc., Cambridge, Mass.			18,000								Economics of new and improved uses of farm products.	1
A-1s-30939	f	Loper Co., Ralph E., Greenville, S. C.		45,000.00									Measurement of costs and margins in marketing farm products.	1½
A-1s-33443	a	Louisiana Agricultural Experiment Station, Baton Rouge, La.					19,100						Comparative efficiency of various rough rice storage methods and economic evaluation of losses.	3
12-25-010-99	d	Lowell Technological Institute, Lowell, Mass.								5,675			A study of persistence of DDT deposits applied to grease wool through processing stages.	1
12-25-010-214	d	Manufacturers Engineering & Equipment Co., Hatboro, Pa.									4,875.00		Development of oil meter for determining percentage of oil in cottonseed.	2
A-1s-33721	d	Market Research Corporation of America, Chicago, Ill.						20,900					Consumer demand for citrus fruits and citrus products.	2
A-1s-33835	d	do							[3] 16,200	[3] 12,700	[3] 12,700		Availability and inventory surveys of certain fresh and processed fruits and fruit products.	4
A-1s-33814	d	do						8,400					Study of ownership of appliances and their effect upon the type of food purchased.	1
12-25-010-2	d	do							[6] 87,830 8,520	 1,500 2,550 [6] 87,830			Reports of consumer purchases of specified dairy products.	4
12-25-010-207	d	do									[6] 116,740.00		do	1
12-25-010-14	d	do								[3] 78,760	[3] 78,760.00		Consumer purchases of certain fresh, processed, and fruit products.	4
12-25-010-209	d	do									9,620.00		Purchases of frozen fruits and vegetables by urban and rural families.	½
12-25-010-457	d	do										[3] 11,000	Retail store audit surveys of fresh and processed agricultural products.	1

See footnotes at end of table.

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)—Continued

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
12-25-010-458	d	Market Research Corporation of America, Chicago, Ill.										[3] 91,296	Providing for household purchase data for fresh citrus fruit and citrus and other selected fruit products.	1
A-ls-33447 superseded A-ls-33811	f	McClain, Ed. B., Memphis, Tenn.					17,000						Cost and margins and performance in marketing fluid milk and cream products.	4
12-25-010-300	f	....do....									24,960.00		Study of margins, costs, and performance efficiency in marketing fluid milk and cream products.	2½
A-ls-32674	d	McCutcheon, John W., New York, N. Y.			7,500								Development of new and expanded market outlets for oil seeds, fats and oils and their products.	1
A-ls-33816	d	....do....						14,000					Study of industrial markets for fats and oils.	1
A-ls-33455	a	Maryland, University of, College Park, Md.					4,000						Effect of poultry merchandising classes conducted under PENB contract.	1½
12-25-010-6	b-1	Michigan State College, East Lansing, Mich.							20,020				Developing and evaluating ultrasonic and microwave techniques for measuring albumen quality of eggs.	3
12-25-010-94	b-1	....do....								20,000			Appraisal of farmers' use of market information.	3½
12-25-010-463	d	Midwest Research Institute, Kansas City, Mo.										19,884	Study of costs and benefits of treatment and disposition of sewage from poultry slaughtering plants through irrigation systems.	2
A-ls-32696	a	Minnesota, University of, St. Paul, Minn.			5,500								Measurement of costs and margins in marketing farm products.	1½
A-ls-33431	a	Missouri, University of, Columbia, Mo.				2,500							Appraisal of influence of poultry merchandising schools conducted under PENB contract.	1

A-1s-33802	b-1	Montana State College Research Foundation, Bozeman, Mont.						26, 550				Study of marketing high protein hard wheat in the northern Great Plains area.	3
12-25-010-459	b-1	do									20, 000	Study of hedging practices and futures contracts for hard spring wheat.	2½
12-25-010-88	f	Moore, N. Hunt, Memphis, Tenn.								14, 801		Determination of varying amounts of labor, power, and other inputs in operating cottonseed oil mills.	1
A-1s-31902	c	National Academy of Sciences, Washington, D. C.		65, 000. 00		32, 000						A study of the effect of certain regulatory measures upon the quality of milk.	4
A-1s-33698	c	do					18, 000					Feed composition tables on commercially processed and marketed byproduct contentrates.	2½
12-14-100-303(62)	d	National Analysts, Inc., Philadelphia, Pa.							[7] 103, 789	[8] 46, 490. 00		Survey of food consumption.	2
A-1s-33458	d	do					10, 315 2, 250					Survey of opinions and practices regarding fibers, among cordage and twine manufacturers.	2
12-25-010-1	d	do							44, 000			A study of women's fiber preferences in clothing.	2
A-1s-30910	e	National association of Frozen Food Packers, Washington, D. C.	9, 000									Development of new and revised standards for grades of processed fruits and vegetables.	4
A-1s-30947	d	National Family Opinion, Inc., Toledo, Ohio.		6, 179. 00								Consumer preference studies.	4
A-1s-33000	f	National Wool Marketing Corp., Boston, Mass.			750							Skirting and sorting wool at ranches, concentration points, and warehouses.	4
12-25-010-193	a	New Hampshire, University of, Durham, N. H.									20, 000. 06	Study of rates, cost efficiency, and carrier's business structure and practices in the bulk transport of milk from farms to plants.	3
12-25-010-101	a	New Jersey Agricultural Experiment Station, New Brunswick, N. J.								18, 000		A study of the habits, damage by, and control of stored-grain insects in the North Atlantic States.	2

See footnotes at end of table.

Summary of RMA contracts executed from 1948 through Jan. 31, 1957, under title II, AMA (former BAE and PMA included)—Continued

Contract No.	Code	Contractor	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957	Subject matter	Term years
A-1s-33047	a	New York State College of Agriculture, Ithaca, N. Y.				45,000		6,100					Time and motion to measure worker productivity in agricultural marketing operations.	4
12-25-010-198	d	Nielsen Co., A. C., New York, N. Y.									11,050.00		Sample survey retail food stores to determine volume and frequency of purchases of fresh and frozen fruits and vegetables in relation to annual volume of total sales.	1
A-1s-32660	f	North American Car Corp., Chicago, Ill.			9,000								Reduction of waste through improved packaging materials and loading techniques.	1
A-1s-31920	b-1	North Carolina State College of Agriculture, Raleigh, N. C.		35,000.00									To ascertain relation of marketing outlets to prices received and paid by farmers and developing methods and procedures for collecting prices received and paid by farmers.	2
12-25-010-211	b-1	North Carolina University Institute of Statistics, Raleigh, N. C.									6,000.00		Statistical tabulation on meat study.	1
12-25-010-204	b-2	Northwestern University, Evanston, Ill.									2,800.00		Measurement of the effect of coupons and special offers on the sales of butter, margarine, shortening, and cooking oils at the retail level.	1½
12-25-010-103	a	Ohio Agricultural Experiment Station, Wooster, Ohio.								11,000			A study of the removal of drosophila fly eggs and larvae and other insect contaminants of tomatoes by specified washing methods and techniques.	2
A-1s-32698	b-2	Ohio Wesleyan University, Delaware, Ohio.			7,500								Measurement of costs and margins in marketing farm products.	2½

A-1s-30904	f	Omaha Grain Exchange Laboratory, Omaha, Nebr	5,075	6,046.50									Develop new methods and new official standards to measure bread-baking quality of wheat.	4
12-25-010-206	f	Opinion Research Corp., Princeton, N. J.										68,400.00	A study of preferences, usages, and buying practices for poultry and poultry products among household consumers.	1
A-1s-31911	a	Oregon Agricultural Experiment Station, Corvallis, Oreg.		4,000.00									The function of futures trading as a means of reducing inventory risk and its consequent effects on feed costs.	1½
A-1s-33822	a	do						4,000					Study of operating costs and efficiency in mixed feed in Oregon, Washington, and California.	1
12-25-010-86	e	Oregon-Washington-California Pear Bureau, Portland, Oreg.								5,000			Evaluating improved shipping containers for winter pears.	2
A-1s-30908	f	Patterson, C. J., Co., Kansas City, Mo.	2,000										Develop new method and standards to measure bread-baking quality of wheat.	4
A-1s-30943	a	Pennsylvania State College, State College, Pa.		4,500.00									The function of futures trading as a means of reducing inventory risk and its consequent effects on feed costs.	4
A-1s-33700	a	do					12,500						Sampling eggs to reflect quality and minimum cost.	2
A-1s-33821	f	Pfaelzer Bros, Inc., Chicago, Ill.						18,000					Developing cutout data for carcass grades of beef, veal calf, lamb, and mutton to determine yield.	3
A-1s-32678	e	Poultry and Egg National Board, Chicago, Ill.			20,000	40,000	25,000	50,000	19,000				Improving methods of handling poultry; training classes.	4
A-1s-33045	b-2	Princeton University Princeton, N. J.				2,100							Develop methods by which statistical demand analyses for farm products can be placed in total economic activity.	1

See footnotes at end of table.

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A-1s-30922	f	Railroad Perishable Inspection Agency, New York, N. Y.	2,500										Reduction of waste through improved packaging materials and loading techniques-perishable products.	½
A-1s-30937	f	do		5,500.00									Do	½
A-1s-31930	f	do			1,000								Loading and transportation of beef.	½
A-1s-32700	f	Redd Ranches, LaSalle, Utah.			750								Skirting and sorting wool at ranches, concentration points, and warehouses.	4
12-25-010-215	a	Rhode Island Agricultural Experiment Station, Kingston, R. I.									18,000.00		A study of the changes in structure and character of apple skin as related to development of apple scald in storage.	3½
A-1s-33807	d	S-D Surveys, Inc., New York, N. Y.						7,950					Preference tests of 6 canned orange juices among household consumers.	2
12-25-010-9	d	do							24,300				A study of frozen foods used by restaurants and cafeterias.	1½
12-25-010-15	d	do								11,500			Preference tests of canned grapefruit juice among household consumers.	2
A-1s-32699	f	Sieben Ranch Co., Helena, Mont.			750								Skirting and sorting wool at ranches, concentration points, and warehouses.	4
12-25-010-464	d	Simmons, W. R., & Associates Research, Inc., New York, N. Y.										57,500	Survey of consumer use of and opinions on citrus products, avocados, dates, and raisins.	2
A-1s-32671	b-1	Southern University Agricultural and Mechanical College, Baton Rouge, La.			27,000	1,000		400					The general economics of marketing.	3
12-25-010-12	b-1	do							12,000				Research on the marketing of agricultural products for Negro farmers.	2

A-1s-33017	d	Stanford Research Institute, Menlo Park, Calif.				23,000							Cost of transportation and handling selected fresh fruits and vegetables.	1½
A-1s-33686	d	....do....					25,000						Maintaining adequate transportation system for expanding western agriculture.	4
12-25-010-210	d	....do....									22,000.00		Cost of handling fruits and vegetables in New York City markets.	1
12-25-010-91	d	Stewart, Dougall & Associates, Inc., New York, N. Y.								15,100			A survey of fabric and fiber patterns used by automobile manufacturers.	2
12-25-010-95	d	....do....								57,265			A survey of women's use of and preference for wool and other fibers in selected items of clothing, home sewing and needlework craft.	2
A-1s-30948	a	Tennessee Agricultural Experiment Station, Knoxville, Tenn.		3,600.00									Futures trading as a means of reducing inventory risk and its consequent effect on feed costs.	4
A-1s-33812	a	....do....						4,000					Study of operating costs and efficiency in mixed feed industry.	1
12-25-010-205	b-1	Tennessee, University of, Knoxville, Tenn.									10,000.00		A study of the costs and margins involved in the processing and marketing of cheddar cheese.	2½
A-1s-30941	a	Texas Agricultural Experiment Station, College Station, Tex.		3,200.00									Futures trading as a means of reducing inventory risk and its consequent effect on feed costs.	4
A-1s-33042	a	....do....				6,000							Economic study of peanut storage structures and equipment requirements in southwest peanut producing area.	1
A-1s-31912	b-1	Texas Engineering Experiment Station, College Station, Tex.		9,000.00	1,000								Effects of new oilseeds and fats and oils processing techniques on the industry, market outlets, and returns to growers.	2½

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A-1s-33465	b-1	Texas Engineering Experiment Station, College Station, Tex.					21,000		2,250				Data pertaining to types of plants, operating practices, and costs in processing soybeans.	2
12-25-010-194	b-1	do									8,730.00		Case study of conversion of small cottonseed oil mills.	1½
12-25-010-11	d	Textile Research Institute, Princeton, N. J.							34,050				Research on fiber properties as to strength, wrinkle recovery, abrasion resistance, and drape of cotton fabrics.	2½
A-1s-33429	f	Trundle Engineering Co., Cleveland, Ohio.				52,200							Materials handling research in public refrigerated warehouses.	2
A-1s-30902	e	United Fresh Fruit & Vegetable Association, Washington, D. C.	50,000 30,000	50,000.00	60,000 40,000	20,000							Improving distribution methods and practices in the handling of foods.	4
A-1s-33445	e	do					70,000 18,000	88,000	88,000	69,000			New methods of training for studying and evaluating expanding market outlets and reducing costs and margins of fresh fruits and vegetables.	4
12-25-010-197	e	do									77,000.00	77,000	Do.	2
12-25-010-461	e	do										29,000	Development and evaluation of packages and methods of prepackaging fresh Anjou pears by wholesalers.	3
A-1s-31933	b-2	Vanderbilt, University of, Nashville, Tenn.			27,000								The general economics of marketing.	3
A-1s-32683	a	Virginia Agricultural Experiment Station, Blacksburg, Va.			15,000		17,500						A study of adequacy of grades and standards.	4
A-1s-33043	a	do				6,000							Economic study of peanut storage structures and equipment requirements in Virginia-Carolina peanut producing area.	1

A-1s-30945	c	Washington State Apple Advisory Commission, Yakima, Wash.		10,000									Prepackaging of perishable horticultural products.	4
A-1s-31944	c	do			25,000								Prepackaging of apples	4
A-1s-33006	c	do				22,000	30,000						Materials, handling research in apple packaging and storage houses.	4
A-1s-33711	c	do						35,000	39,000	20,000			Research on apple sorting, sizing, and packing operations.	3
A-1s-33442	a	Washington State College, Pullman, Wash.				8,000							Changes in egg quality at each step of the marketing channel.	2
A-1s-33038	c	Washington State Fruit Commission, Yakima, Wash.				7,000							Prepackaging of perishable horticultural products.	4
A-1s-32681	c	do			7,500								Prepackaging of fresh cherries.	4
12-25-010-192	b-1	Washington, University of, Seattle, Wash.									12,000.00		Determination and analysis of cost of handling grain received at port terminal elevators by railroad and motortruck.	½
A-1s-31917 Revised	c	Western Growers Association, Los Angeles, Calif.		25,000	25,000	10,000	35,000 10,000	25,000					Reduction of waste through improved packaging materials and leading technics.	4
A-1s-33730 Revised	c	do						45,000					Salability and net returns to growers for carrots, packaged in different types and sizes of containers and methods of packaging.	4
12-25-010-5	c	do							45,000				Determining effect of specified containers and methods of shipping lettuce.	2
A-1s-30938	f	Western Weighing and Inspection Bureau, Chicago, Ill.		4,500.00									Handling and shipping celery.	½
A-1s-30923	f	do	2,500										Handling and shipping cantaloups.	½
A-1s-31943	a	Wisconsin Agricultural Experiment Station, Madison, Wis.			9,000								Transportation costs and their economic effects on agriculture.	2
A-1s-33804	a	Wisconsin, University of, Madison, Wis.						25,000					Study of milk procurement practices and policies of a selected group of dairy processing plants.	4

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12-25-010-462	a	Wisconsin, University of, Madison, Wis.	----	----	----	----	----	----	----	----	----	12,800	Study of the costs and margins involved in the manufacture and marketing of rindless block, bandaged and paraffin coated (Cheddar) and processed cheeses.	2½
2 purchase order contracts of $500, or less, each			----	----	----	----	----	----	----	499	494.48	----	Analysis and tabulation of data on MD projects.	----

[1] An equal amount of funds was contributed to the contract by the former ARS.
[2] Includes $10,000 under cooperative agreement from Texas Sheep & Goat Raisers Association.
[3] One-half contributed by citrus industry.
[4] $30,000 not shown which was contributed by the contractor
[5] $6,075 contributed from citrus industry.
[6] $25,000 contributed by dairy industry.
[7] ARS contract $235,732; $103,789 our share
[8] ARS amendment $103,281; $46,490 our share.

Code
a. Agricultural experiment stations.
b. Other colleges and universities:
1. State.
2. Other.
c. Other public agencies.
d. Private research firms.
e. Trade associations.
f. Business firms.
g. Purchase order contracts (predominantly business firms).

Mr. WELLS. The contracting privilege is quite a valuable one, and we are getting much work done for which we would not otherwise have the personnel or facilities to do, and we are getting work done which would require us to put civil-service personnel on our rolls were it not contracted.

Mr. WHITTEN. I think our committee is in accord with that. As I have said in the National Defense Subcommittee of which I am a member, there are two things in government that you have to approach with fear and trembling. They are defense and research. We all believe in their necessity and they are so popular that if anybody starts asking, "Are you spending your defense dollar wisely and getting value for your dollar?" or "You have all this money for research, but how much research value are you getting?" immediately you get a segment of the press and others that claim you are against defense or against research.

But I think you have a much harder job getting research results than getting money for research. We have worked with this subject long enough to be convinced of that.

Mr. WELLS. Getting research done is difficult. I want to stress the fact that we need a marketing research program.

Mr. WHITTEN. I don't think you need to say that to convince us you do. And neither do you have to say that to get us to say we do, too. I think the records clearly show that we do.

Mr. WELLS. As I say, Mr. Chairman, we have been trying to gradually develop and strengthen the research program. And I am perfectly willing to admit there are some real problems. On the other hand, marketing research is a field that has been very badly neglected in the past, and I don't know how to make progress except just to go ahead and plug at it.

Mr. WHITTEN. I was not taking issue with you. I think you have the same degree of interest in trying to improve and increase the results from these funds that the committee has. And I give you credit for that. But it still leaves a problem, and it is a continuing one, to really get results. You know some of the examples that this committee came up with a few years ago.

MARKETING RESEARCH AND SERVICE

Mr. WELLS. Now, in addition to the marketing research and retirement allowances there is approximately $1 million of other increases in the budget for 1958. Part of that is for statistical work which contributes to our estimates of farm income, and crop and livestock estimates. But most of it falls in the marketing service fields where we are asking for several increases that have to do with marketing services, which I think again are very much needed, and which Mr. Lennartson will explore with you in detail.

Mr. WHITTEN. How many additional people do you contemplate in your organization, approximately?

Mr. HOLMAAS. Not considering a decrease in reimbursable obligations, the total average annual employment increase for the marketing research and service appropriated funds would be 409, of which 143 would be offset by a decrease in the trust fund operation related to the financing of retirement contributions. So, when man-years applicable

to intermittent employment are also deducted, it is roughly an increase of 250.

Mr. WHITTEN. Two hundred and fifty people. Now, in building up this budget request, does it provide funds for those people for a full year?

Mr. HOLMAAS. No; that figure is for employment on an average annual basis.

Mr. WHITTEN. Now, you know you are not going to have all of them the first month, and if you try to get the right kind of people you won't have all of them, the second, third or fourth months. Actually, wouldn't 75 percent of this meet your needs through the year, so far as the additional people are concerned?

Mr. HOLMAAS. These are based on average annual employment. There would be more positions at the seasonal peaks and at year end. So this is the average which also takes into account lapses due to delays in filling positions.

Mr. WHITTEN. Now, is that set up for people or on positions?

Mr. HOLMAAS. This figure I gave you was based on effective man-years—that is man-years used during the year—which would mean the position numbers and peak employment numbers would be greater.

Mr. WHITTEN. Now, the 1958 budget would give you enough money to have that many people for a full year on the average. When you end the year, how many additional positions are you going to have filled?

Mr. WELLS. We have this situation, Mr. Chairman. There were a series of increases last year, so we have somewhat more people to pay this year as a whole than we paid last year. Now, it is quite true that personnel situation is such that in some instances you will not get the full increase but normal lapses and part-time employment are allowed for in the budget as presented.

Mr. HOLMAAS. Our year-end employment projection for fiscal year 1958 for the appropriation, including reimbursements, as compared with 1957 year-end, shows an increase of 424 and we estimate the budgeted total would be required.

Mr. WELLS. What I am trying to say is with the kind of program we have had for the last 3 years, we have a buildup in personnel from last year's employment, Mr. Chairman, and this continues.

Mr. WHITTEN. Mr. Marshall.

FEDERAL SEED ACT WORKLOAD

Mr. MARSHALL. Mr. Wells, in your statement you say:

We are finding it increasingly difficult to handle the increased workload on imported seed without excessive delays.

What is your problem?

Mr. WELLS. There has been a substantial increase, Mr. Marshall, in the amount of seed being imported into the United States. Now, I suppose the wheat seed situation was a temporary one and won't be repeated, but with the soil bank and the interest in conservation crops, we are just running behind in taking care of inspecting imported seed. When Mr. Lennartson appears, he will give you the statistics on this. But there has been a substantial increase in the number of seed shipments imported in the last 2 or 3 years.

Mr. MARSHALL. What are the principal imports of seeds?

Mr. LENNARTSON. It is primarily clovers and the grass seeds and things of that nature, rather than the vegetable seeds, very frankly, because of the type of agriculture we are going into here. Now, where this is reflected, Mr. Marshall, is in the matter of timing. We are getting increasing complaints on the part of the importers, primarily the dealers in this country importing the seed, because of the delay in our certification. And what we intend to do with the increase that we are asking for is to strengthen the office at Minneapolis and our laboratory at New Brunswick, N. J., which are the two main ports of entry. It is in those two areas that we are having the greatest difficulty. It is a matter of speeding up the regulatory work that is required under the act of certifying these seeds for distribution. And of course a delay of 2 or 3 weeks at certain times of the year has quite an impact, not only on the farmer, but the handler of the seed.

Mr. MARSHALL. When this seed comes into this country, where do you take the sample?

Mr. LENNARTSON. Customs takes the sample at the port of entry. We are permitting, under a fee service basis, the importer to send a sample of his seed ahead, for cursory examination, to determine whether or not he has any chance of having it certified.

Mr. WELLS. You go ahead and take your customs sample after that, too.

Mr. LENNARTSON. Following that, we have to get the official sample and issue the official certification.

Mr. MARSHALL. Do you assess a fee or charge to the importer?

Mr. LENNARTSON. Only where he asks us to make a cursory examination ahead of the importation. The act requires as a regulatory act that we furnish the service as a protection to the producer.

Mr. MARSHALL. How many additional employees do you feel you would put on this coming year for this phase of the work?

Mr. LENNARTSON. Roughly 8 man-years. And that would be distributed between both of those laboratories, with one additional employee out here at Beltsville for supervisory work and any activity out there.

REVIEW OF WHEAT STANDARDS

Mr. MARSHALL. Recently I have been getting quite a lot of complaint from our area, which is principally a spring wheat area, concerning some proposed change of grades of wheat. Could you tell me what is contemplated there.

Mr. LENNARTSON. Mr. Marshall, as early as 3 years ago, the Department was getting increasing requests from producers, from farm organizations, from the millers, and, importantly so, from importers or exporters of our wheat, that there was too much foreign material, that essentially the grades were not sufficiently tight to put us in proper competition with wheat from other countries.

These requests for a review of the wheat standards continued to increase to the point where the Department decided to call together a cross section of the industry to discuss what type of proposals they would like to have the Department present to the industry for the purpose of essentially tightening up the wheat standards. We had such a meeting in September 1955, and these proposals were submitted by interested parties in industry, representing producer groups, the

farm organizations, the National Millers Federation and others. There are about 12 proposals in all, 8 of them being of major consequence.

We published those proposals in the Federal Register, in accordance with rulemaking procedures. We have held four regional meetings of an informal nature where anyone could make a record with respect to them, pro or con, and they are now being considered by the Department.

The Department has not, at this point, issued its recommended decisions. We are running into this type of situation—where producer groups, the general farm organization, and the millers, are strongly in favor of the proposal, with but few exceptions. We find that the trades people, the co-op group, the managerial end of the cooperative group, are vigorously opposed to making any change whatsoever.

These standards have not been modified since 1934.

What it boils down to, Mr. Marshall, is that producers are claiming that they produce much better wheat than is being marketed and exported from this country. They claim that the wheat they produce does not contain the foreign material, does not contain the moisture content and other things, that is being traded in commercial channels. They are fearful that under the present standards there is too much latitude permitted the handler of grain to engage in mixing procedures, blending grains of poorer quality or material of a foreign nature into the type of grain he is producing. They feel that a tightening of the standards fundamentally will reflect additional premiums to them for their wheat.

The handlers and the co-ops are contending otherwise. They are contending that any tightening of the standards will have a direct impact on the price to the producer.

Now, there we are with those two rather massive groups pro and con in the situation. We have the proposals under consideration at this time.

Mr. MARSHALL. The Department as yet has not made any official changes—it is still under consideration?

Mr. LENNARTSON. We have not. Incidentally, we have in Washington this week the top men of our grain inspection service who are going over in detail the tremendous number of briefs that have been filed and the information that has been filed as a supplement to the positions taken.

Mr. MARSHALL. Does the Department intend to hold any further hearings or do you feel you have passed that stage?

Mr. LENNARTSON. We think that we have given the industry adequate time to state its position. There isn't much more to say. It is a case now of analyzing what we have in.

Mr. MARSHALL. I seem to have had an outburst lately of people concerned that if the grade were to be lowered, it would put higher quality wheat into a lower classification, thereby giving an exporter an opportunity to purchase better quality wheat at a lower price.

Mr. LENNARTSON. Actually it reflects a tightening up of the standards. It is a matter of lower moisture, less foreign material, less cracked and broken kernels, less wheat of other types being mixed in.

SHELL EGGS FOR SCHOOL LUNCH

Mr. MARSHALL. I have also been receiving correspondence from school people asking me why they are unable to get the amount of shell eggs that they wished in their school-lunch program. Have you had any difficulties along that line? Or should that wait until the school-lunch programs?

Mr. WELLS. We can discuss it now. We did embark on a shell egg purchase program last fall. I think it is fair to say that it is the general policy of the Department of Agriculture not to buy with section 32 funds anything that we do not have an outlet for. We buy on a competitive bid basis what we can move.

We had, by early December, purchased enough eggs to about run through January. The total number of eggs that we could purchase last fall was relatively small. And actually, what we did was to purchase grade A medium eggs rather than large eggs, because the medium eggs were selling at what looked like an unmerciful discount, food value concerned.

The purchase program was discontinued in December, simply because we had enough eggs to run us well into January. It was resumed about 2 weeks ago. The offers are in today for the first week.

So we will be purchasing some more shell eggs during the next 2 months or so. Now, in purchasing eggs, or any product, we do not try to overload the school-lunch program with them. At the same time, we also try to do what good we can for the farmers. The maximum quantity of eggs that we think can be used in the school-lunch program is about 40,000 to 50,000 cases a week. Currently, production of eggs, Mr. Marshall, is running about 4 million cases a week, or 15 to 16 million cases a month.

The problem we are faced with is how to get the most good from an egg-purchase program and at the same time help supply the school-lunch program.

I should think there was a period of time from about mid-January until about the first of March when there would be some schools that would have preferred to have more eggs. However, let me point out to you that we tried, in putting these products into the schools, to get additional consumption. We think most of these eggs are additional consumption. On the other hand, I suspect there are school-lunch people who also buy eggs. So we are not trying to overload the schools with eggs. We have also tried to put our purchases at a time when we think they will do the most good. We do not want to substantially encourage producers to believe that the purchase of shell eggs can be on a sufficient scale that they ought to hatch more chickens and increase their laying flock for the coming season. Despite very unsatisfactory egg prices for some months now, we entered 1957 with 1 or 2 percent more hens laying 4 percent more eggs than a year earlier. If this should keep up, it would mean an extra 7 million cases in 1957.

With an outlet of 40,000 or 50,000 cases in a school-lunch program, the real question is how to handle the purchase program to do farmers the most good. I think the egg-purchase program last fall did help the farmer in the Midwest who produced Medium grade A's, and I believe in the next several weeks we may prevent, let's say, too big margins developing between midwestern and other eggs by a reasonable purchase program.

Mr. MARSHALL. I certainly appreciate there are some problems in distribution along that line. I had a member of the school district who came to see me in the middle of December, and they had made a request for shell eggs in September, and they had not, up to that time, received one egg. Now, what made the thing acute as far as he and I were concerned is he saw me in December when the egg prices were at a low point—and I might say egg prices since that time were in a disastrous position, actually.

Mr. LENNARTSON. Did you say he had not received any eggs by December?

Mr. MARSHALL. He had not received any up to the middle of December. Their school had not received any eggs.

Mr. LENNARTSON. That is astounding, because these eggs are allocated to the States on the basis that they request them, in any quantities they request them. If I could have the name, Mr. Marshall, I would like to run that down, because there is no excuse for that.

Mr. MARSHALL. I have had several letters along that line, and I will bring them to the next hearing.

Mr. GARBER. There is one State that chose not to distribute eggs—the State of Indiana.

Mr. MARSHALL. This is Minnesota.

Mr. GARBER. Well, there was a total of 208,606 cases bought in Minnesota, and 16,450 cases distributed to the schools in Minnesota through December, and it was on an offer-and-acceptance basis. It was offered to the schools that wanted to use them. And then they went out to the schools.

Mr. WELLS. We would be glad to run this down, because any school that really wanted eggs in September should have been able to get them in November and December.

Mr. GARBER. In December.

Mr. WELLS. He said the request was in September.

Mr. GARBER. Our deliveries were started on October 8 and were furnished through the week of December 17. We did not have any eggs to deliver in September.

Mr. MARSHALL. What he told me was that they had made a request in September, and up until the middle of December they had not received eggs.

Mr. LENNARTSON. His request should have come in in September, because we started delivering in October. I would like to have the details of that.

Mr. WELLS. We make our deliveries in carload lots to the State agency, and they are responsible for distributing them in the State. We do not, as a rule, take responsibility for distribution within the State.

FOOD-CONSUMPTION SURVEY

Mr. MARSHALL. I have one other question. You were carrying on some work over there determining the consumption of commodities based upon the income of people. Is that tied in with some of this report that you were talking with Mr. Whitten about a little earlier?

Mr. WELLS. Well, the home-economics group in Agricultural Research Service together with the market-development group in Agricultural Marketing Service did jointly carry forward a major survey of food consumption. The survey was made about a year ago, and

the first set of tabulations or summary tables has recently been released. This does tell us in considerable detail what products are being consumed, by what classes of families—I mean in terms of geographic location, in terms of income, in terms of residence, urban and rural. This material is being rather widely discussed at the present time.

Mr. MARSHALL. When was that material released?

Mr. WELLS. About 2 weeks ago—January 23, I believe. An additional series releasing a great deal of analysis still to be done is in the works.

Mr. MARSHALL. It seems as though it is a release that has met with quite a lot of favorable comment. It is rather a large report; isn't it?

Mr. WELLS. Mr. Marshall, I will send you a copy tomorrow morning. It is a large report. Most of it is simply statistical tables. It is meeting with favorable reception. We are getting many requests from many sources, not because it is interesting reading, but because it contains a lot of useful material people can dig out of it. It is really supplying material which researchers and marketing people and others use as a basis for further research and analysis. We have a lot of analyses going ourselves. I have just had a series of tables worked out for my own use.

Mr. MARSHALL. Is this type of survey complete now, or do you intend to keep doing more of this?

Mr. WELLS. This is the kind of survey that you would not repeat next year, because food habits do not change fast enough for that. But it is the kind of thing that probably Mr. Trelogan and the home economists would say should be repeated once every 5 years.

Mr. TRELOGAN. That is right. It is too expensive to do every year.

Mr. MARSHALL. Thank you.

PROGRESS IN INSPECTION, GRADING, CLASSING, AND STANDARDIZATION COMPARED WITH OTHER PROGRAMS

Mr. NATCHER. Mr. Wells, in my opinion, you, as the Administrator of the Agricultural Marketing Service, and your Deputy Administrators and Directors are entitled to make the statement that significant and worthwhile contributions are being made in marketing research; marketing news; grading, classifying, and inspection; marketing agreements; crop and livestock statistics; economic analysis; and similar activities in your particular service.

During the past 10 years, the American farmer has received many benefits as a result of the fine accomplishments from your service. I am just wondering, Mr. Wells, if during this particular 10-year period, from 1946 through 1956, if the inspection, grading, classifying, and standardization services of your particular department are keeping pace with the other services in the Agricultural Marketing Service.

Mr. WELLS. Mr. Natcher, I think there has been a tendency to center attention in the agricultural field on the price-support program and related activities, rather than on these continuing, rather well-established services. However, during the last 3 or 4 years we have begun to substantially improve the inspection and classifying services and marketing activities generally. We can give you a rather impressive record of the increase in volume of work under those particular activities during the last 2-year period.

Also the Secretary of Agriculture has been willing, and this committee has been willing, to grant us during the last several years additional funds for marketing service work which have been very much appreciated. And in considerable part, the increase in this particular budget is to maintain and strengthen these services.

The largest bloc of the almost $2 million allowance for retirement costs is to cover the retirement costs of the grading, classifying, and inspection services so we will not have to raise fees. And the total increase for marketing services over and beyond retirement runs close to $800,000 in this particluar budget.

So that we are making progress, although I do think myself that for a long time we more or less marked time.

Mr. NATCHER. Mr. Wells, what percentage of the total salaries and personnel connected with the inspection, grading, classifying, and standardization services is paid by private industry?

Mr. LENNARTSON. Well, overall, on all the inspection and grading programs, excluding standardization, the services are self-supporting to the extent of about 85 percent. In other words, about 15 percent of the services are borne by the taxpayer.

Mr. NATCHER. I wonder if you would insert in the record at this point a chart showing the total number of employees in these particular services—inspection, grading, classifying, and standardization, in the year 1946, and at the close of the year 1956, and break this down into the different groups. Can you furnish that for the record at this point?

Mr. LENNARTSON. Yes, sir.

Mr. NATCHER. What I have in mind, Mr. Lennartson, is the number of employees in the different fields where this service is used.

Mr. LENNARTSON. Right.

Mr. NATCHER. I want you to furnish this chart and have a breakdown as to the different types of inspection service, and so classify it. I am just interested in those 2 years, 1946 and the close of 1956.

(The material referred to above is as follows:)

Inspection, grading, classing, and standardization—Estimated average annual employment, by commodity group—Fiscal years 1946 and 1956

Activity	Fiscal year 1946			Fiscal year 1956		
	Direct appropriation	Trust funds and other reimbursements, including funds from CCC	Total	Direct appropriation	Trust funds and other reimbursements, including funds from CCC	Total
Cotton and cottonseed	258.7	103.1	361.8	344.5	199.6	544.1
Dairy and poultry	22.2	479.9	502.1	48.8	929.8	[1] 978.6
Fruit and vegetable	113.7	419.1	532.8	69.0	708.9	777.9
Grain (U. S. Grain Standards Act)	250.0	.2	250.2	273.8	3.1	276.9
Livestock, meats, and wool	21.3	714.6	735.9	14.1	508.7	522.8
Naval stores	5.6	1.4	7.0	5.4	2.7	8.1
Rice, hay, beans, etc	36.0	219.4	255.4	8.8	215.6	224.4
Tobacco	234.4		234.4	244.3	108.8	353.1
Total	941.9	1,937.7	2,879.6	1,008.7	2,677.2	3,685.9

[1] For 1956, this includes man-years as follows: Dairy, 3.1 under direct appropriation, and 281.0 under trust funds; poultry, 45.7 under direct appropriation, and 668.8 under trust funds. Available records for 1946 are not broken down between these commodities.

WHEAT STANDARDS

Mr. HORAN. Quite a number of us out West have been troubled with wheat surpluses, and we have had a little difficulty, especially with our dairy, poultry, and livestock people generally, because of the high price of wheat for feed. I certainly do not blame them. And I have introduced a bill, and others of my colleagues on both sides of the aisle have introduced bills to permit the sale of feed of specified amounts of wheat of less desirable milling quality. And this is backed, of course, by the producers themselves. They are very anxious to do that. We feel that probably we could feed 25 million bushels of wheat out there if we were permitted the sale of wheat as feed at approximately the same price we are exporting wheat abroad now, outside of the International Wheat Agreement.

I am very much interested in this grain standards matter. I think inescapably we have got to have a study of it and whatever corrections are indicated ought to be made. And you say that you will have that work completed in the near future?

Mr. LENNARTSON. Well, we have to announce it by March 15 at the latest.

Mr. HORAN. We have certain varieties—I think the one they name is a variety named Rex. And I guess it would be acceptable for feed. But I believe that we need to be a little more specific and a little more careful on these grain standards.

STUDIES OF RETAIL MOVEMENTS OF COMMODITIES

The second thing is studies that you are making in marketing research. I wonder how they are coming along. On the retail movement of certain commodities, the one I am familiar with, as you know, Mr. Wells, is apples. And you do have some projects underway at this time; do you not?

Mr. WELLS. Yes, sir. We are engaged, Mr. Horan, in measuring or trying to find ways to measure fairly economically the retail movement of various products. In the case of apples, we have been trying two different approaches during the last year and are continuing that during this current fiscal year. One of those approaches is to use the market-news facilities to measure total truck and carload shipments into a market and then to check with the warehousing people to see what quantity is moved to retail stores. If this can be done, we think it would be a much more economical method than the alternative that we are experimenting with.

The alternative is to have actual observers in the fruit or vegetable sections of selected retail stores. You in effect mark off, and it is fairly easy to do in an ordinary retail store, what you consider the fruit and vegetable section in each store in a selected sample. The observer spends a certain amount of time in each store on certain selected days and observes the number of people who enter the fruit and vegetable section, the number who actually buy apples, and with the cooperation of the clerk he endeavors to keep track of how many pounds of apples were purchased, with some notes as to what varieties moved best and what varieties sold slowest.

The problems that we are up against in this kind of retail store observation are statistical problems and cost problems, both. In other

words, to get enough observation so that you have a statistically reliable answer, one where we are willing to say "The United States Department of Agriculture estimates so-and-so," you have to have quite a few observers in quite a few stores, Mr. Horan. And I must say to you our research results indicate it is a fairly expensive process if you are to get the kind of statistical reliability which I think as a Government agency we would have to insist upon.

The market news approach is a much cheaper approach. It also has some touchy problems in the way of getting cooperation and accurate, timely reports. When Mr. Trelogan and his people appear, they can tell you more about this. But essentially last year we did some work, the industry did some work, and we are continuing this fiscal year. And I think there will be a strong demand that we try and inaugurate some kind of commercial service in the fiscal year. Whether we have found a way to do it accurately enough and at reasonable cost or not, I don't yet know.

Mr. HORAN. I want to commend you, Mr. Wells. You are running a good shop. I have had occasion to watch your work, and I think these things are of tremendous value to the American producer. And I do feel that the American farmer is not getting the full amount for the time he puts in. And I think we are making headway in improving his status. I just want to encourage you to keep up the good work. That is all.

That is all, Mr. Chairman.

Mr. MARSHALL. The committee will stand adjourned until 1 o'clock on Wednesday.

Wednesday, February 13, 1957.

MARKETING RESEARCH AND SERVICE

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
Direct obligations:			
1. Marketing research and agricultural estimates:			
(a) Marketing research	$5,652,276	$6,742,600	$8,022,100
(b) Economic and statistical analysis	1,361,183	1,464,500	1,723,300
(c) Crop and livestock estimates	4,626,854	5,229,900	5,737,100
Total, marketing research and agricultural estimates	11,640,313	13,437,000	15,482,500
2. Marketing services:			
(a) Market news service	3,891,592	4,179,000	4,611,800
(b) Inspection, grading and classing, and standardization	6,779,512	6,807,500	8,130,000
(c) Freight rate services	166,214	170,700	180,800
(d) Regulatory activities	1,632,221	1,808,100	2,190,100
(e) Administration and coordination of State payments	53,887	54,700	73,300
Total, marketing services	12,523,426	13,020,000	15,186,000
Total direct obligations	24,163,739	26,457,000	30,668,500
Reimbursable obligations:			
2. Marketing services: (b) Classing cotton and grading tobacco	1,668,500	2,269,000	2,118,600
Total obligations	25,832,239	28,726,000	32,787,100
Financing:			
Comparative transfers from (−) other accounts	−210,506	−237,000	
Advanced from Commodity Credit Corporation	−1,768,500	−2,269,000	−2,118,600
Unobligated balance no longer available	491,067		
Appropriation (adjusted)	24,344,300	26,220,000	30,668,500

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
AGRICULTURAL MARKETING SERVICE			
Total number of permanent positions	4,079	4,038	4,478
Full-time equivalent of all other positions	284	445	425
Average number of all employees	3,549	4,021	4,392
Number of employees at end of year	3,706	3,774	4,198
Average salaries and grades:			
General schedule grades:			
Average salary	$5,294	$5,373	$5,373
Average grade	GS–7.2	GS–7.3	GS–7.5
Ungraded positions: Average salary	$3,836	$3,703	$3,703
Personal service obligations:			
Permanent positions	$17,770,164	$19,435,900	$21,323,645
Positions other than permanent	901,331	1,559,300	1,471,105
Regular pay above 52-week base	65,432		78,850
Payment above basic rates	111,676	84,000	82,100
Other payments for personal services		6,700	6,700
Total personal service obligations	18,848,603	21,085,900	22,962,400
Direct obligations:			
01 Personal services	17,605,903	19,351,100	21,373,500
02 Travel	1,394,631	1,513,800	1,719,600
03 Transportation of things	255,362	232,500	253,200
04 Communication services	1,558,312	1,648,300	1,722,900
05 Rents and utility services	211,843	225,700	126,900
06 Printing and reproduction	473,674	569,600	500,800
07 Other contractual services	1,237,347	1,398,200	1,464,700
Services performed by other agencies	150,687	624,400	879,300
08 Supplies and materials	465,390	479,100	669,500
09 Equipment	332,570	370,100	468,900
10 Land and structures	6,489		70,000
11 Grants, subsidies, and contributions: Contribution to retirement fund			1,281,300
13 Refunds, awards, and indemnities	15,617	13,000	13,000
15 Taxes and assessments	36,232	31,200	34,900
Total direct obligations	23,744,057	26,457,000	30,668,500
Reimbursable obligations:			
01 Personal services	1,242,700	1,734,800	1,588,900
02 Travel	137,000	199,100	184,300
03 Transportation of things	76,300	93,200	81,300
04 Communication services	63,600	77,800	68,800
05 Rents and utility services	34,700	58,900	51,800
06 Printing and reproduction	16,690	22,600	20,100
07 Other contractual services	26,400	29,400	26,200
08 Supplies and materials	43,600	30,000	26,900
09 Equipment	20,200	12,900	11,500
11 Grants, subsidies, and contributions: Contribution to retirement fund			49,600
13 Refunds, awards, and indemnities	700	600	600
15 Taxes and assessments	6,700	9,700	8,600
Total reimbursable obligations	1,668,500	2,269,000	2,118,600
Total, Agricultural Marketing Service	25,412,557	28,726,000	32,787,100
ALLOCATION TO AGRICULTURAL RESEARCH SERVICE			
Total number of permanent positions	10		
Full-time equivalent of all other positions	2		
Average number of all employees	11		
Number of employees at end of year	10		
Average salaries and grades:			
General schedule grades:			
Average salary	$5,209		
Average grade	GS–7.0		
Ungraded positions: Average salary	$3,829		
01 Personal services:			
Permanent positions	$52,609		
Positions other than permanent	4,666		
Regular pay above 52-week base	203		
Total personal services	57,478		
02 Travel	2,834		
03 Transportation of things	4		
04 Communication services	20		
06 Printing and reproduction	74		

Obligations by objects—Continued

	1956 actual	1957 estimate	1958 estimate
ALLOCATION TO AGRICULTURAL RESEARCH SERVICE—con.			
07 Other contractual services	3,043		
Services performed by other agencies	11,564		
08 Supplies and materials	7,952		
09 Equipment	172		
15 Taxes and assessments	135		
Subtotal	83,276		
Deduct charges for quarters subsistence	711		
Total, Agricultural Research Service	82,565		
ALLOCATION TO FARMER COOPERATIVE SERVICE			
Total number of permanent positions	53		
Average number of all employees	45		
Number of employees at end of year	48		
Average salaries and grades:			
General schedule grades:			
Average salary	$5,568		
Average grade	GS–7.6		
01 Personal services:			
Permanent positions	$260,519		
Regular pay above 52-week base	1,008		
Payment above basic rates	350		
Other payments for personal services	158		
Total personal services	262,035		
02 Travel	19,731		
03 Transportation of things	817		
04 Communication services	5,972		
06 Printing and reproduction	12,237		
07 Other contractual services	33,112		
08 Supplies and materials	1,840		
09 Equipment	1,166		
13 Refunds, awards, and indemnities	25		
15 Taxes and assessments	182		
Total, Farmer Cooperative Service	337,117		
Total obligations	25,832,239	28,726,000	32,787,100

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$23,381,000	$26,220,000	$30,668,500
Transferred from—			
"Removal of surplus agricultural commodities" (5 U. S. C. 572)	38,300		
"Cooperative extension work, payments and expenses, Extension Service" (70 Stat. 161)	925,000		
Adjusted appropriation	24,344,300	26,220,000	30,668,500
Obligated balance brought forward	2,936,179	2,765,843	3,406,853
Increase in prior year obligations	17,375	100,000	
Restored from certified claims account		9,310	
Total budget authorizations available	27,297,854	29,095,153	34,075,353
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	21,320,140	23,018,000	26,525,400
Out of prior authorizations	2,720,804	2,670,300	3,154,000
Total expenditures	24,040,944	25,688,300	29,679,004
Unobligated balance no longer available (expiring for obligation)	491,067		
Obligated balance carried forward	2,765,843	3,406,853	4,395,953
Total expenditures and balances	27,297,854	29,095,153	34,075,353

Mr. WHITTEN. We come now to the first section under Agricultural Marketing Service, which is marketing research and agricultural estimates. I believe the increase there is approximately $2,045,500.

In this connection we would like pages 6 to 9 of the justifications placed in the record at this point.

(Pp. 6 to 9 of the justifications are as follows:)

Marketing research and service

	Marketing research and agricultural estimates	Marketing services	Total
Appropriation Act, 1957	$13,200,000	$13,020,000	$26,220,000
Activities transferred in the 1958 estimates from "Acreage Allotments and Marketing Quotas, Commodity Stabilization Service" for crop estimates data	237,000		237,000
Base for 1958	13,437,000	13,020,000	26,457,000
Budget estimate, 1958	15,482,500	15,186,000	30,668,500
Increase	+2,045,500	+2,166,000	+4,211,500

Summary of increases and decreases, 1958

Marketing research and agricultural estimates:	
For additional marketing research	+$1,000,000
For expanded statistical analyses, outlook and service work	+26,000
For regular collection and analysis of data on farm income and production expenses	+157,300
For expanding and improving crop and livestock reporting services	+257,500
For retirement costs pursuant to Public Law 854	+604,700
Subtotal	+2,045,500
Marketing services:	
Increases:	
To expand and improve market news service	+292,000
To extend, improve, and expand inspection, grading, and standardization services	+188,100
For furnishing to food inspectors and graders washable outer garments to protect the product from contamination by the inspector or grader	+137,000
To help meet the increased workload in connection with administration of the import provisions of the Federal Seed Act	+48,050
To provide improved supervision of stockyards posted under the Packers and Stockyards Act and to post additional yards	+178,000
To improve administration and enforcement of the United States Warehouse Act	+52,150
To expand supervision and technical direction for matched fund marketing service projects being carried on in the States	+15,800
For retirement costs pursuant to Public Law 854	+1,370,400
Decreases due to providing a direct appropriation to the General Services Administration for certain leasing costs previously paid from this appropriation	−115,500
Subtotal	+2,166,000

Project statement

Project	1956	1957 (estimated)	Increase or decrease		1958 (estimated)
			Retirement costs (Public Law 854)	Other	
1. Marketing research and agricultural estimates:					
(a) Marketing research:					
(1) Market development	$916,183	$1,045,300	+$31,300	+$245,000	$1,321,600
(2) Market organization and costs	1,801,286	2,120,100	+95,900	+225,000	2,441,000
(3) Improving and evaluating product quality	1,730,020	2,128,200	+88,200	+350,000	2,566,400
(4) Market transportation and facilities	1,204,787	1,449,000	+64,100	+180,000	1,693,100
Total, marketing research	5,652,276	6,742,600	+279,500	+1,000,000	8,022,100
(b) Economic and statistical analysis:					
(1) Price, supply and consumption	652,462	773,500	+39,800	+26,000	839,300
(2) Farm income	534,709	368,800	+19,100	+157,300	545,200
(3) Farm population	174,012	322,200	+16,600		338,800
Total, economic and statistical analysis	1,361,183	1,464,500	+75,500	+183,300	1,723,300
(c) Crop and livestock estimates:					
(1) Field crops	1,639,949	1,846,400	+95,200	+84,400	2,026,000
(2) Fruits and vegetables	647,730	809,300	+36,900		846,200
(3) Livestock and poultry	1,071,248	1,179,500	+53,800	+73,100	1,306,400
(4) Dairy	479,372	519,500	+23,800		543,300
(5) Agricultural prices	641,133	671,300	+30,700	+100,000	802,000
(6) Enumerative surveys, cold storage, farm employment and wages	147,422	203,900	+9,300		213,200
Total, crop and livestock estimates	4,626,854	5,229,900	+249,700	+257,500	5,737,100
Total, marketing research and agricultural estimates	11,640,313	13,437,000	+604,700	+1,440,800	15,482,500
2. Marketing services:					
(a) Market news service:					
(1) Cotton and cottonseed	387,178	399,000	+15,900		414,900
(2) Dairy and poultry products	707,110	775,500	+20,400	+48,800	844,700
(3) Fruits and vegetables	1,145,305	1,219,800	+40,100	+148,900	1,408,800
(4) Grain, hay, feed, etc	206,029	235,500	+8,000		243,500
(5) Leased wire service	292,662	340,700	+6,200	+30,500	377,400
(6) Livestock, meats, and wool	942,362	998,300	+42,900	+53,400	1,094,600
(7) Naval stores	21,132	19,500	+900		20,400
(8) Tobacco	189,814	190,700	+6,400	+10,400	207,500
Total, market news service	3,891,592	4,179,000	+140,800	+292,000	4,611,800

Project statement—Continued

Project	1956	1957 (estimated)	Increase or decrease		1958 (estimated)
			Retirement costs (Public Law 854)	Other	
2. Marketing services:—Continued					
(b) Inspection, grading and classing and standardization:					
(1) Cotton and cottonseed	2,314,965	2,303,100	+129,035	−113,735	2,318,400
(2) Dairy products	25,887	26,100	+75,800	+17,600	119,500
(3) Fruits and vegetables	546,832	556,400	+215,000	+55,200	826,600
(4) Grain (U. S. Grain Standards Act)	1,618,174	1,697,800	+74,930	+91,870	1,864,600
(5) Livestock, meats and wool	114,900	117,700	+199,000	+37,700	354,400
(6) Naval stores	37,600	38,000	+2,600		40,600
(7) Poultry products	337,931	336,700	+249,700	+80,000	666,400
(8) Rice, hay, beans, etc	60,705	43,000	+64,300		107,300
(9) Tobacco	1,722,509	1,688,700	+102,535	+40,965	1,832,200
Total, inspection, grading, classing and standardization	6,779,512	6,807,500	+1,112,900	+209,600	8,130,000
(c) Freight rate services	166,214	170,700	+10,100		180,800
(d) Regulatory activities:					
(1) Federal Seed Act	252,241	255,200	+12,050	+48,050	315,300
(2) Naval stores and tobacco export permits	8,626	9,800	500		10,300
(3) Packers and Stockyards Act	652,105	769,700	+33,400	+178,000	981,100
(4) Standard Container Acts	10,948	12,500	+500		13,000
(5) Warehouse Act	708,301	760,900	+31,950	+52,150	845,000
(6) Perishable Agricultural Commodities, Produce Agency and Export Apple and Pear Act			+25,400		25,400
Total, regulatory activities	1,632,221	1,808,100	+103,800	+278,200	2,190,100
(e) Administration and coordination of State payments	53,887	54,700	+2,800	+15,800	73,300
Total, marketing services	12,523,426	13,020,000	+1,370,400	+795,600	15,186,000
Unobligated balance	391,067				
Total retirement costs (Public Law 854)			[+1,975,100]	[+86,950]	[+2,061,050]
Total available or estimate	24,554,806	26,457,000	+1,975,100	+2,236,400	30,668,500
Transferred from "Payments to States, Hawaii, Alaska and Puerto Rico, Extension Service," pursuant to Public Law 94	−925,000				
Transferred from "Removal of surplus agricultural commodities," pursuant to 5 U. S. C. 572	−38,300				
Comparative transfer in 1958 estimates from "Acreage allotments and marketing quotas, Commodity Stabilization Service," for crop estimates data	−232,294	−237,000			
Comparative transfer in the 1957 estimates to "Salaries and expenses, Office of the Secretary of Agriculture"	+21,788				
Total appropriation or estimate	23,381,000	26,220,000			

Mr. WHITTEN. You may proceed in whichever way you may see fit.

DR. HERRMANN. Mr. Wells presented the broad outlines of the Agricultural Marketing Service program in his opening statement, including the work under the subappropriation for marketing research and agricultural estimates. The budget calls for a program increase of about $1,440,800. The work under this heading is divided into

three parts; Marketing research, economic and statistical analysis, and agricultural estimates.

Dr. Trelogan, the Director of the Marketing Research Division, will cover the work under the first part of that heading.

Mr. WHITTEN. We will be glad to hear from you, Dr. Trelogan.

MARKETING RESEARCH

Dr. TRELOGAN. My remarks are related to the first four items on page 7 of the notes.

Today there is widespread interest in agricultural marketing margins, costs, and services. Farmers and consumers want to know what the costs are, how they are changing and why, whether the services are needed, and whether they are performed efficiently.

An experience 2 weeks ago at the Kentucky Farm and Home Week, convinced me that this committee sensed this interest correctly when it insisted that more work be devoted to these questions 2 years ago.

The lady who presents consumer-education programs on radio and TV in Louisville, told the Farm and Home Week audience that her programs presenting the findings of our market-spread studies evoked more interest and mail than any others this past year. She stated that many correspondents expressed gratitude for the information, stating that it helped them to understand farm problems and why farmers were experiencing difficulties when prices in the stores appeared to be good.

MORE MARKET SERVICES FOR CONSUMERS

These studies clearly point out that the food consumers receive today for their money are much different than they were a few years ago. Consumers now get higher quality, better standardized products, in convenient packages, in more ready-to-use form, with wide selections attractively displayed in beautiful, air-conditioned stores where shopping is a pleasure.

All of these improvements entail additional services. It is apparent that these services are worth something to consumers.

Food processors and retailers like to say that their convenient, ready-for-the-table products represent built-in maid service. There is good reason for this slogan. In 1955, the number of domestic servants in American households was down more than one-third from 1940.

Home economists 2 years ago estimated how much would be saved by buying the same products that were bought in 1940 and how much time it took the housewife to prepare the foods the way they can be bought now. They then calculated that the housewife could earn 45 cents a hour by performing the services herself. This is a comparatively low rate when we recognize that the minimum wage today is $1 an hour.

Women have long since learned that they can earn more money outside the home. Thirty-four percent of the women 14 years of age and over were working outside the home in 1955, compared with 27 percent in 1940. Almost 30 percent of married women are now engaged in outside employment.

Farmers are also getting more services from the market. They sell nearer to home; they have more of the trucking, preparation, and

conditioning done for them; they obtain more credit from the buyers, who also provide more supplies and services for farm operation.

Studies we have recently completed in a major broiler-chicken-producing area illustrate the degree to which this has gone. Market operators, that is, feed dealers, processors, and hatcherymen, provided the following services to the farmers: They supplied the chicks to be raised and the feed and medicine to raise the birds for 98 percent of the growers. They had fieldmen call on the growers to diagnose disease encountered, and supervise the administration of medicines provided by the dealers. They made all arrangements for selling the broilers, including when to sell, where to sell, and for how much. They sent trucks to pick up the broilers at the farms in all cases. And for two-thirds of the growers, they also provided catching crew to put the birds on the trucks. They fed and watered about 30 percent of the birds after they reached the market. Altogether, they provided 98 percent of the credit needed for supplies and materials used in production. In addition, most of the dealers' contracts with the growers guaranteed them against losses and provided premiums for better than average feeding efficiency.

You can bet dealers did not do all this for nothing. But, a good share of their gain came from being able to operate their feed businesses or their dressing plants or their hatcheries on a regular basis, and nearer to capacity. Judging from the rapid growth that has occurred in the Georgia broiler industry, where these studies were conducted, the arrangements have been mutually satisfactory to growers and market agents.

While this illustration may not be typical, our studies are repeatedly showing additional services being provided by market operators in their competition for farmer patronage.

Farmers are becoming more reliant upon still other types of marketing services. Our transportation cost study shows that farm products now have to be transported longer distances—from more specialized producing areas to larger metropolitan centers. For example, in 1941, potatoes had to come an average distance of 550 miles to New York City. In 1955, potatoes were brought on the average 856 miles to supply New York City—an increase of 56 percent. Our research has shown that this pattern is repeated for many commodities going to cities all over the country.

FARMERS NEED HELP TO MEET COMPETITION

Farmers are more dependent on market agents helping them to meet the competition from other goods. Most consumers today have more income than is required to provide for their essential needs, so they can exercise considerable selection in buying—they can take what they want instead of just what they need. The attractiveness of the products and accompanying services become more important in determining what is bought. Thus, farmers are more than ever dependent upon marketers to grade, package, display, and protect the quality of products so that housewives will be induced to buy. Much of our research is intended to help market agencies do these jobs more effectively.

RISING COSTS

Costs of labor, transportation, packaging materials, credit, and all the other things needed by processors and distributors have gone up and are continuing to rise. Rail rates on agricultural products, for example, have gone up about 75 percent in the last 10 years. Although they have had increases granted within recent weeks, petitions for further increases are pending before the Interstate Commerce Commission. Wage rates have increased every year and are now more than 100 percent above 1945.

Our marketing cost studies estimate that of the $23 billion increase in the marketing bill for farm foods from 1940 to 1955, $13 billion can be accounted for in the rising of price levels, $6 billion as payments for additional services, and $4 billion for the added volume of products handled.

The added volume is related to population growth, greater consumption per capita, and to the fact that farmers have increased their output.

GREATER MARKET AHEAD

Each of these factors promises to continue upward. Together these factors suggest the likelihood of a 30 to 35 percent greater market in another 10 years.

Demand for marketing services, however, is likely to rise even more than the demand for food. One reason is that more of our population is likely to move off farms and live in cities, where they buy more of their food in market places. In 1940, 23 percent of our population lived on farms; now 13 percent live on farms. Those who remain on farms will also contribute. In 1942, farm people produced at home 60 percent of the food they ate. A survey in the spring of 1955 shows that farm families produced only 40 percent of the food they ate—the farm housewife is also going to market to obtain more of the things she puts on the table and this expands our demand for market services.

With full employment in the cities, incomes are continuing to rise and consumers are willing to buy more products—especially when the products can be prepared for convenient use. Last year Americans spent over $50 billion for the food that was grown on our American farms. This compares with $14.5 billion in 1940.

Mr. WHITTEN. I hate to interrupt you, but it is so easy to get a wrong impression. I want it to show in the record that the farmer got only 40 cents out of that dollar. When those figures are used, it is well to make those notes, because we have been struggling so hard for the American consumer to understand that his high grocery bills are not going to the farmer.

FARMER'S SHARE OF TOTAL FOOD MARKET

Dr. TRELOGAN. In other words, $20 billion of that $50 billion went to the farmer, and $30 billion of the $50 billion went to the marketing agencies.

Mr. WHITTEN. When those figures are given, I think it is well to footnote it; otherwise we do not get the entire picture, and we do want to get these facts known.

You may proceed.

PERFORMING MARKETING SERVICES AT LESS COST

Dr. TRELOGAN. One of the questions that can be raised is: Can the marketing services be performed with less cost?

We are convinced, on the basis of repeated research results, that the answer to this is "Yes." But, at the same time, in all fairness we must acknowledge that the marketing agencies are establishing an excellent record of finding cheaper ways to perform the services. One of the best ways to reduce marketing costs is to obtain greater productivity of labor—the highest cost element incurred in marketing.

Greater labor efficiency can be achieved by eliminating some of the handling operations, by mechanizing operations, and by introducing automation into more of the operations. The adaptation of automation techniques to marketing offers considerable promise. Automation means many things to many people, but let me give you one example to help you visualize how it is applied.

AUTOMATION MEANS INCREASED LABOR PRODUCTIVITY

The introduction of automation into the operation of food warehouses is relatively recent, but we can already observe places where, instead of the old method of having manual labor handle every case, carton, or package of goods out of trucks or boxcars onto hand trucks and into the stacks, the packages are now moved on pallets by forklift trucks onto automatic conveyors or trains pulled by tow trucks that follow either energized electric wires in the floor or painted white lines without a driver to the points where forklifts stack the goods 3, 4, and 5 pallet loads high.

This type of mechanization is spreading fast. Recently, the National Association of Food Chains indicated that all of their chains averaged 1.90 tons per man-hour moved in their warehouses in 1955, compared with 1.06 tons per man-hour in 1947. This is an increase in labor productivity of more than 80 percent in 9 years.

These same techniques are being rapidly applied to many marketing functions and promise greater efficiency in the future. As a matter of fact, the progress that has been made goes a long way to explain why consumers have been willing to use more and to spend more for the products that come from the farm.

Mr. ANDERSEN. One question, please, Doctor.

Dr. TRELOGAN. Surely.

Mr. ANDERSEN. You said in 1947 1.06 tons per man-hour could be put into storage or moved into the warehouse.

Dr. TRELOGAN. Moved in a wholesale warehouse.

Mr. ANDERSEN. That compares with how much at present?

Dr. TRELOGAN. It compares with 1.90 tons per man-hour in 1956.

Mr. ANDERSEN. But how much additional does that employee get today compared to 1947, per hourly wage?

WAGE DATA ON WHOLESALE WAREHOUSE EMPLOYEES

Dr. TRELOGAN. I do not have the data for that particular group of employees. We have it for employees in all wholesale trades. Is that what you would like to have?

Mr. ANDERSEN. Yes. How much offset is there there? Perhaps you can put it in the record. There is undoubtedly quite a bit of increase in that particular man's hourly wage, would you not say that?

Dr. TRELOGAN. For all wholesale trades, average hourly earnings rose about 58 percent between 1947 and 1956.

Mr. ANDERSEN. All right. I believe you also said that this has resulted in improved efficiency in the operations?

Dr. TRELOGAN. Yes, sir.

Mr. ANDERSEN. Has it not also resulted in the doing away with a certain number of jobs in this industry?

Dr. TRELOGAN. Yes. Obviously, if you are getting more productivity per laborer, you are getting the same laborers to handle more or using less laborers to handle the same amount. In view of the expansion we have experienced, it is apparent that the development is not replacing laborers, but getting them to handle more.

Mr. ANDERSEN. How far can we go along the line of making things automatic to the extent where we do away with a lot of labor, which might be the thing to do in times such as we have at the present, where there is very little difficulty for a man to get a good job? However, if we can foresee a superabundance of labor in a few years' time, if things get a little tough and we have to cut down on defense expenditures, for example, then perhaps this particular line of research will not amount to much, taking the welfare of the Nation as a whole into consideration. Do you see the point I am driving at?

Dr. TRELOGAN. Yes. Surely.

Mr. ANDERSEN. We can become so efficient that perhaps we will have difficulty due to the jobs not being available, or something of that nature. That thought just ran through my mind when you were discussing this matter.

MECHANIZATION ACCOMPANIES HIGH LABOR COSTS

Dr. TRELOGAN. Mr. Andersen, I think you will find there will be a tendency to get greater productivity of labor by substituting machinery so long as labor costs are higher than the cost of the machinery. If there is an abundance of labor and wage rates are relatively lower, then I think you will find less of a tendency to substitute machinery for labor in this kind of an operation. But when costs of labor are high there is a strong incentive to make these shifts.

PRICE SPREAD BETWEEN PRODUCER AND CONSUMER

Mr. ANDERSEN. We are becoming more efficient every day, and more advanced in our normal agricultural operations, but at the same time it appears to be evident that it is getting tougher for the average farmer to get a sufficient return on what he does produce to come out on the straight end of the horn.

Dr. TRELOGAN. Yes, indeed.

Mr. ANDERSEN. So if you go along and put in a little further definition of this word "efficiency" as it affects our economy, you might do that at your leisure in the record, Doctor. I did not mean to take you off the subject you were discussing.

Mr. WHITTEN. In that connection, I made speeches to several groups in the fall. I made the statement that the present adminis-

tration in recent years thinks the answer to our farm problem is more research and more extension. I believe in both of them, but I extended the challenge that I did not believe that extension and research, however good a job they could do, could reduce costs as fast as United States Steel and the labor unions and the Congress could increase them. I think your statement here shows that is so. In other words, if you check your savings in handling these packages in a wholesale warehouse, you probably will find that your labor costs went up faster than you eliminated the labor or the need for it. Through legislation, wage contracts, freight rate increases, and actions of United States Steel—and I mention that because steel figures in so many other things—the tendency is that costs will go up fully as fast as research and extension can hope to lower them. Thus it leads to the conclusion, when you talk about farmers' incomes, that it leaves nothing but price and volume to make up the difference.

Dr. TRELOGAN. There is another point there. When you have minimum-wage laws, and they have been influential in raising the labor costs for marketing, if you do not get the increases in efficiency, the impact on farm prices might be even greater. The same is true with respect to the wage pattern established by the steel and automobile industries. They get the efficiencies and establish the wage pattern, and in the course of time the unions in the other areas tend to follow that pace in setting a wage rate. It certainly has an impact on the wages that have to be paid in the agricultural marketing system. In the course of time the advances get reflected through the system, and if we are not able to increase the productivity of the labor in marketing activities it means greater pressure will be placed on the prices—either the prices market agents pay to farmers for the products or the prices at which they sell the products to consumers.

ANALYSIS OF SPREAD BETWEEN FARMER AND CONSUMER

Mr. WHITTEN. Of course, this committee is very much in accord with your views, which you state very excellently, Dr. Trelogan. But I point out again, that is the reason why this committee insisted you do this work to determine where the money went as between what the farmer got and what the consumer paid. As we analyze these figures, it becomes even more apparent that this information is absolutely essential. Prior to the demand on the part of this committee, which was implemented by this provision in the appropriation bill 2 or 3 years ago, the Secretary himself—and I do not get you involved in that—was making speeches saying that if the farmer did not take lower prices the consumer would rise up in arms.

But at least through the direction of this committee you are finding out where this money is going that the consumer is paying. I will say to the credit of the Secretary that, once we pointed out that fact to him, he has done a fair job in publicizing where this money goes. But I am glad we had this done to get him back on the track, to some extent.

I noticed President Eisenhower was glad in his last campaign to show these facts.

Mr. ANDERSEN. For the record, I want to say this: I believe this subject we are discussing, which affects the economics of agriculture, is basic and fundamental, and it harks back to what this subcommittee,

as you said, Mr. Chairman, has been trying to establish for a great many years. That is, to determine just what is happening and just why should the farmer get as little as he does out of the food dollar.

Doctor, you will excuse me for interrupting you, but I felt it was important to say that.

Mr. WHITTEN. You might proceed. This is quite interesting.

Dr. TRELOGAN. There are a number of implications of the developments I have described, and I would like to suggest several of them. First, there is a considerably bigger American market for farm products in store. Nevertheless, the rapidity of change has been and will be so great that problems of adjustment will be of paramount importance. This suggests that research will be needed throughout the marketing system to aid management in making adjustments that have to be made.

The growth of our market will probably be influenced by the ability of our market operators to provide more services and to provide them more efficiently. We need to get customers who want to spend more for food instead of for automobiles, and television sets, and garbage disposals, or recreational activities.

DEVELOPMENTS IN TURKEY MARKETING

We need more developments similar to those that have occurred with turkeys. Most of us can remember when live turkeys were driven or shipped to local butchers for the holiday season. Later, the distant growing areas, such as Minnesota and Texas, shipped New York dressed birds, thus reducing bruising and death losses and saving transportation costs to better meet competition in large eastern markets. This was the prevalent method in the 1930's, when I recall helping to dress, sort, and package the turkeys for shipment to the East, but this became a common method practiced all over.

Still later, outlying areas learned how to meet the competition still better by eviscerating the birds, by freezing them, and by packaging and wrapping them individually so they were ready to put into the oven. This eliminated shipping heads, feet, entrails, and feathers that represented garbage at points of consumption, at the other end of the marketing line. Market agents performed these additional services and found more sales for the ready-to-bake products could be made.

IMPROVEMENTS IN TURKEYS

Last Thanksgiving I was impressed that I could buy the much more attractive turkey for about the same price per pound I paid back in the 1930's for the New York-dressed bird. I checked newspaper ads to confirm my memory. Last Thanksgiving the large tom turkeys could be bought here ready to cook for the same price as a New York-dressed bird in 1935 and 1938, at about 35 cents a pound.

The first thing that occurred to me was what did the farmers get? In 1938 the records show the farmers received 17.1 cents per pound for their live turkeys. Last November it was reported they received 26 cents per pound for live turkeys. This in spite of the fact that in 1938 it took 109 pounds of live turkey to yield 100 pounds of New York dressed turkey—the retail product, whereas now it takes 120 pounds of live turkey to yield 100 pounds of retail ready-to-cook turkey. These data are consistent with the findings of our turkey margins study,

published last April, which indicated that retailers were taking very low margins on turkeys during the holiday season.

During other seasons of the year margins are much wider, but the marketing job is getting more consumption the year around. In 1938, per capita consumption of turkeys was 2.2 pounds. Last year it was 5.4 pounds.

Even though we can cite successful developments like this, we must anticipate important problems of adjustment for the farmers. They will have to recognize how the retailers buy and sell under these changed conditions and adapt their practices accordingly. Farmers will need to anticipate the kinds, the qualities, and the amounts of products our markets will want, and that the buyers for these markets will take.

This means that specialized farmers producing large quantities of uniformly high-quality products that can be assembled for shipment, or for processing in relatively small areas, are likely to fare best in the markets. Reliable supplies in terms of both quantity and quality will be essential for the mass distribution system. But farmers may need to exercise more selection among markets in which they sell, selecting those that will provide services needed by the buyers as well as the farmers.

The farmers will need to be more concerned about their bargaining position. There will be fewer buyers, and they will be bigger operators. The number of retail stores is declining. Their wholesaling and buying operations are being consolidated and integrated.

The National Association of Retail Grocers issued a report on the merger movement in retail food and grocery distribution, reporting that in 1955 over 1,400 stores were acquired by 9 firms. This means, you see, that the buying activities for many foods are being consolidated into relatively fewer hands. This suggests that farmers will need to be prepared to deal with buyers on a strong business basis.

Farm prices are likely to be more sensitive to small changes in supply and demand. This is true because marketing costs, which usually are inflexible, will be a bigger proportion of the consumer's price, or the retail price.

Marketing research is designed to assist farmers and market agents to adjust their operations to the changes that have been occurring so rapidly. It seeks greater efficiency in handling, in pricing, and in selling.

MARKET DEVELOPMENT RESEARCH

Market development research, which is described on page 11 of the notes, deals primarily with selling efficiency. It endeavors to ascertain what buyers want and prefer, by obtaining measures of what they like or dislike about the products made available to them. This is done by finding out how buyers use the products, how they decide between alternative products, and what factors influence them most in determining whether to buy or not to buy particular products.

The research also tests out new or improved products to find out what the market potentials are for the products developed in the utilization laboratories that appear to have promise. It also studies the relative effectiveness of different methods of merchandising farm products and studies the locations, types of buyers, and market outlets that represent the best opportunities for selling the products.

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COTTON POPULAR FIBER WITH TEEN-AGERS

To illustrate, last year studies in this area showed that cotton is the leading fiber in the teen-ager's wardrobe—mainly because of its excellent laundering qualities. Light weight, coolness, durability, versatility, and inexpensiveness were other factors giving cotton advantage over competing synthetic fibers in the minds of teen-agers and their parents who helped them decide what to buy.

CONSUMERS PREFER LARGE, LOW DENSITY LOAVES OF BREAD

Another study tested consumer preferences for different bread formulas to help the baking industry with knowledge of the proportions of lard or shortening, sugar and nonfat milk that appealed most to users of white pan bread. It showed that large, low density loaves were preferred over more compact breads containing the same ingredients.

GOOD MARKET FOR FROZEN GRAPEFRUIT SECTIONS

Another study showed frozen grapefruit sections, a new product, to have good commercial possibilities. The product can extend the season for selling grapefruit and has a good chance for expanding consumption. This is good in view of the prospects for grapefruit production. Wider markets will certainly be needed.

PROPOSED MARKET DEVELOPMENT WORK

With an increased appropriation for this particular work next year we propose, among other things, to conduct an additional survey of an industrial use for cotton to ascertain the trends in buying and the opinions of those responsible for buying the materials used. Heretofore we have been covering one use of cotton a year. We hope next year we can step up the schedule to two industrial outlets because it has taken too long to get around to the different uses we would like to cover.

We propose to initiate a study of food habits and of attitudes toward nutrition to ascertain how consumer knowledge and beliefs are affecting the use or nonuse of various foods by different segments of the population.

We hope also to expand studies of market potentials for fats and oils as plasticizers, and to undertake a new study of the effect of synthetic sources of nitrogen on the market for oilseed meals.

With sufficient funds we would begin a consumer reporting panel in a large metropolitan area to test new or improved products and to evaluate changes in demand and sales brought about by merchandising and promotional activities for particular products.

MARKET ORGANIZATION AND COSTS RESEARCH

The second major area of our work is on market organization and costs research. This appears on page 13 of the House notes. This research deals more directly with pricing efficiency. It begins with examination of costs and relates them to marketing margins and spreads, paying particular attention to the changes that are occurring.

It then endeavors to evaluate the economic significance of the changes in prices, margins and costs to help those participating in the market to visualize and anticipate the adjustments needed to be efficient or, indeed, to survive under many of the altered conditions.

Acquisition of basic data on costs and margins, developing better methods for supplying farmers and tradesmen with price, supply and other market statistics, and analyzing the data to point out the economic impacts of change are among its important features.

EXPANDED PRICE SPREAD STUDIES

During the past year farm-to-retail price spread studies were greatly expanded. More than 25 costs and margins reports measuring components of the food marketing bill were issued—some of these issues have reached 50,000 copies—compare the bulletins on beef, pork, and bread marketing bills. Reprints in trade journals and other publications, radio and TV programs, have widened the circulation of the information.

Another publication from this research showed how farmers can increase premiums for high protein wheat through improved marketing methods. Another assembled available information on the relationship of trading stamps to food marketing methods and costs. We also issued an informative publication on changing patterns in fluid milk distribution which should provide data for improving milk price and margin estimates.

STUDIES OF FROZEN FOOD OUTLETS

The relative size and nature of frozen food outlets was the subject of a recent study. 1955 production of prepared frozen foods exceeded one-half billion pounds—a growth of 60 percent over the previous year. About 85 million pounds of these products were used in public eating places.

IMPROVED POULTRY AND EGG RECEIPTS DATA

Improved methods for obtaining wholesale market news for broiler chickens and for reporting egg and poultry movements through assembly and processing plants were developed during the past year.

ADDITIONAL COSTS AND MARGINS MEASUREMENT STUDIES PROPOSED

With an increased appropriation for this research, we plan to do additional work on the measurement of costs and margins and devote more attention to the reasons for the changes that are occurring. We hope to expand work on the economic effects of selling beef on the basis of Federal grades to determine how this influences meat packing, wholesaling, and retailing practices and the effects on farmers and consumers. We hope to expand studies on the impact of trading stamps on food buying and selling practices, costs and prices, and to expand studies on the impact of the St. Lawrence seaway on agricultural marketing.

We propose to initiate studies of the effect of the growing size and integration of marketing firms on prices and services in agricultural marketing and to initiate studies on the practices employed in marketing refined sugar and their effect on prices and sales.

Mr. ANDERSEN. In reference to the preceding comment, will you repeat that, please? It was something about the size of these marketing institutions.

EFFECTS OF MERGERS ON PRICES AND SERVICES

Dr. TRELOGAN. We would like to initiate studies on the effect of growing size and integration of marketing firms on prices and services in agricultural marketing.

Mr. ANDERSEN. Now, are you going to go into the possible question of a monopoly by any big food firms in connection with the distribution of any products?

Dr. TRELOGAN. That would be an aspect of it, I anticipate. I do not know whether you would say monopoly, but more monopolistic characteristics of such operations may become evident.

Mr. ANDERSEN. I would say a tendency toward monopoly. I would rather express it that way. I am thinking of these big Brentwood firms collecting eggs back in my area, which are really a subsidiary of Safeway. I am just beginning to wonder how much effect does a big firm like Safeway have on the price level set for what is produced back in southwestern Minnesota? That will be part of the study, will it?

Dr. TRELOGAN. That is the type of thing we are preparing to analyze as we study buying and selling practices of such firms.

Mr. ANDERSEN. I am not asking you to institute it specifically with Safeway.

Dr. TRELOGAN. I agree with you.

Mr. ANDERSEN. Do not get me wrong. If there is any such tendency toward monopoly, we would like to be made aware of it. We would also like to know whether they are controlling the prices paid to producers and holding them down.

Dr. TRELOGAN. Yes, sir. We would also like to develop better data on costs and prices for seeds, mixed feeds, and other items farmers buy, as well as do further work on improving methods for reporting egg and processed poultry receipts at terminal markets.

BIOLOGICAL SCIENCES RESEARCH

The third item I would like to discuss for a moment is our biological sciences research, which appears on page 15 of the notes. This research is designed to find ways to protect or improve the quality of farm products as they move through the markets, and thereby reduce waste and spoilage and increase consumer satisfaction. It also contributes to pricing efficiency by developing practical ways of identifying or measuring product qualities for buying and selling.

In this program of work during the past year we conducted shipping tests for Florida and California citrus fruits showing how to minimize spoilage and make more attractive fruit available on European markets. We developed methods for forecasting decay in stored grapes.

We continued to improve techniques for the distribution of fumigants in bulk grain storage with air-circulation methods, and developed methods for reducing insect infestation of tobacco in redrying plants.

The research has successfully adapted newly available films such as polyethylene films to the packaging of a number of fresh fruits and

vegetables to better maintain the microclimatical conditions required to hold their quality.

If we are able to obtain additional funds for this work in the coming year, we propose to expand research on methods to control insect infestation in fruit and vegetable processing plants, and in peanut and tobacco storage plants, and initiate research on methods of control of insects in transportation facilities.

We will expand studies on sterilization of food by irradiation, and seek further improvement of methods for cooling fruits and vegetables at different marketing points by adaptation of recently developed techniques of vacuum cooling and hydrocooling to more products and at more locations. Along with this we will measure the improved qualities obtained to see if they are worth the cost. We propose also to initiate new work on factors affecting seed quality and on the need for ante mortem inspection of poultry.

TRANSPORTATION AND FACILITIES RESEARCH

The fourth area of research with which we are concerned, which appears on page 16, is transportation and facilities research. This is aimed primarily at physical handling efficiency. It seeks to obtain greater productivity in marketing by designing and promoting the use of better buildings, equipment, machinery, and facilities and packages for storing, transporting, warehousing, and displaying farm products. In essence, it seeks to reduce the labor requirements for marketing by introducing better work methods, mechanization, and automation to marketing operations.

IMPROVEMENTS IN MARKET TRANSPORTATION AND FACILITIES

This type of research takes cognizance of the new services being provided by market agents and helps to find less costly ways of performing them. For example, 10 years ago the prepackaging of fresh fruits and vegetables was almost unknown. Now, 15 billion pounds of produce are put in consumer units annually. This research is intended to figure out where and how to best do this work.

Last year the research workers in this area developed a demountable, lightweight, general-purpose, shipping pallet. It weighs 35 pounds compared with the usual 75 to 100 pounds. They published master layout guides for livestock auction market facilities in the Southeast.

They developed and field tested a new plum container that is cheaper to buy, faster and less expensive to pack, and delivers plums to consumers in good condition. I mention this as one of a series of similar developments for other perishable foods.

In the market-facility studies, they made surveys and plans for new markets at nine locations; namely, Worcester, Mass.; Roanoke, Va.; New York City; New Orleans; Chester, Pa; Vincennes, Ind.; San Francisco; Grand Rapids, Mich.; and livestock facilities at Fort Worth, Tex.

EXPANDED RESEARCH PROPOSED FOR TRANSPORTATION AND FACILITIES

With additional research funds for transportation and facilities work we would undertake to expand the planning of market facilities in specific localities; initiate research on improved methods, equip-

ment, and facilities for handling, storing, and marketing tobacco; and start a statistical time series on movements and revenue involved in trucking.

I think you may recognize that one of the reasons why we are always quoting rail-freight rates is they are the most readily available data pertaining to transportation costs and we need more data on the trucking area than are available at present. Along with this objective we should obtain data on the volume and nature of truck movements under agricultural exemption. Here we would like to get information on the volume and the kinds of commodities transported, and the extent to which vehicles are leased for the return hauls.

TRUCK MOVEMENTS UNDER AGRICULTURAL EXEMPTION

Mr. WHITTEN. It is the belief of myself and the committee, and I think most of the Congress, that it is absolutely essential that this exemption in regard to agricultural transportation continue under the present law and regulations of the Interstate Commerce Commission. Is it your feeling that this information which you contemplate obtaining will help to strengthen the argument as to the necessity of maintaining the present situation?

Dr. TRELOGAN. We need to obtain more authoritative information on how important this exemption is to agriculture. As things stand now, we do not have adequate data to demonstrate its importance, and we have to rely pretty heavily on authoritative opinion or on limited data relating to particular commodities moving from particular places. We are trying to establish records here that would indicate in a more substantial way the significance of this exemption.

Mr. WHITTEN. You may proceed.

FURTHER AREAS NEEDING EXPANDED RESEARCH

Dr. TRELOGAN. We would like to expand research on the packaging of fruits and nuts in consumer units to provide more emphasis on larger and more mature products, products that are more in keeping with the preferences expressed by consumers. In addition, we would like to begin research on improved design of rail cars and trucks for handling grain. And we would like to initiate studies for obtaining greater efficiency in distributing food through institutional outlets. These are becoming more and more important in our distribution system for food, and warrant greater study.

All in all, I feel a creditable record of performance has been established in this marketing research program. We would like to be in position to take advantage of more of the opportunities to do productive research. This period of rapid transition to a larger market in a growing economy is presenting ample opportunities. We need more resources to the more adequate job that we are confident we can do.

MARKETING-RESEARCH RESULTS APPRAISED

Mr. WHITTEN. Dr. Trelogan, I think you made a very fine presentation. It always helps a man to tell a good story when he has a good story to tell. I think you and the folks with you have done a fine job in recent years in directing your attention to the proper places.

The information you are obtaining is at least helping the farmer to prevent his situation from getting much worse than otherwise.

I realize that merely knowing the facts will not cure the problems. But at least it is the first step toward curing those problems. It has taken some of the blame off of the farmers, which they received several years ago, when all of this high cost of living at the retail level was attributed to the farmer. Also, it should enable those who wish to reduce the cost of living at the retail level to center their efforts at the place where the increase in the cost is coming about.

I think, too, that lots of people will want to continue the high cost of living, if that is necessary to maintain many of the services which the housewife is demanding. I know they are, because quite frequently you see them pass up what 10 years ago would have been acceptable groceries in the vegetable line. You see them pass them up now, because they are accustomed to cellophane packaging and all of that type of thing.

EMPLOYMENT

How many new employees do you propose in 1958, and what did you have in 1957?

Mr. HOLMAAS. For 1957 we have budgeted for average employment of 756. This would provide for an increase of 117 for 1958. This average employment represents 137 permanent positions and 6 man-years of intermittent employment, but we have budgeted funds for only the equivalent of 117 after we deduct the lapses for those we do not expect to have the full year.

Mr. WHITTEN. In the early days of this Research and Marketing Act, we were convinced from several investigations we made that there was a tendency to make specialists by act of the Civil Service Commission. It was quite apparent that their background, to say the least, was not as good as you would like to have had it. In your efforts to get lots of people in a hurry, you apparently had some of that kind of thing.

RECRUITING SITUATION

What is your situation with respect to recruiting skilled people now?

Dr. TRELOGAN. Very well, let us say people who are capable in the area of marketing research. I feel we have a more highly qualified staff today than we have ever had. We have been recruiting regularly, but slowly. This has been a difficult job, because we have had such a rapid turnover in our people. Many of the people who have been with us for a while go out at much higher salaries than we can pay them. In numerous instances this is true, after they have been with us a relatively short time. Our turnover tends to be high, but we are able now, I think, to go out and get qualified replacements. They are not coming to our doorsteps. We have to go out and find them, but I feel we are able to recruit enough people to staff the kind of program we are proposing here.

The amount we are asking for today is not commensurate with the problems; it is patterned on what we think we can do with available qualified people.

Mr. WHITTEN. I think that is a much better way to do it. As I have pointed out, under the civil-service system, while it has many advantages, it also has some disadvantages which I have enumerated.

How many positions do you have filled at the present time, and how many vacancies have you? If you do not have that, you can put it in the record.

Mr. HOLMAAS. On December 31, 1956, Mr. Trelogan, in his immediate Division, had 551 permanent, full-time employees, 18 full time under limited tenure appointments, and 46 part-time and w. a. e. employees. In addition, about 92 other AMS employees were engaged in research under his technical direction or in servicing the research program including statistical tabulation, dissemination of research reports, and general administrative work. These total 49 less than the budgeted average employment.

PRICE SPREAD STUDIES ON TURKEYS

Mr. MARSHALL. I noted that you said in your discussion of turkeys that the spread had narrowed between the farmer and the consumer.

Dr. TRELOGAN. During the holiday season.

Mr. MARSHALL. That trend does not show the same trend over a yearly basis then?

Dr. TRELOGAN. It is a net change from the thirties to 1956. I was just referring to those two periods. In the study we issued in April we were showing the relatively short time changes within a single year. It shows rather pronounced differences in margins between periods of the year, between sizes of turkeys, and between types of stores.

Mr. MARSHALL. Apparently the spread between the turkey producer and the ultimate consumer is somewhat narrower than some of the other commodities. What I mean to say is, the turkey producer gets a larger percentage of the turkey dollar than is shown in the trend of some other commodities.

Dr. TRELOGAN. That is right, especially during the holiday season.

STUDIES ON OTHER COMMODITIES

Mr. MARSHALL. You have made a number of studies about the trend. What are some of the commodities which go in the opposite direction, showing that the trend has increased so much more. We are talking about the producer getting about 40 cents out of the consumer's dollar. What about some of the commodities that have gone in the other direction?

Dr. TRELOGAN. First, let me mention that we will incorporate much of this information in the material that the committee asked us to place in the record as an addition to the testimony presented by Mr. Wells last week. Among the studies that show this upward trend quite clearly are those for bread, pork, beef, lamb, and milk. These represent the major studies conducted thus far. But we can see a similar trend in fruits and vegetables, and in virtually every important group of products we have examined. There are a few products, such as turkeys, that can be pointed out where the technological developments or changes in marketing practices do not follow the average by any means.

Mr. MARSHALL. Would you think it would be possible from the studies you have made that some of these commodities have not kept as good a pace as they might have with the marketing of competitive commodities? Would that be part of your studies?

Dr. TRELOGAN. Yes; that would be one of my conclusions.

Mr. MARSHALL. I have been interested in my particular area concerning the market for pulpwood which seems to be a problem which some of our people have. We have not been able to get statistics. Is your Department doing anything on that?

Dr. TRELOGAN. For the most part, we have left that work with the Forest Service. You are talking about wood pulp?

Mr. MARSHALL. Yes, sir.

Dr. TRELOGAN. The Forest Service has taken primary responsibility for the marketing work that pertains to wood products.

RURAL DEVELOPMENT PROGRAM

Mr. MARSHALL. What have you been doing in connection with the rural development program? Is your Department doing anything on that?

Dr. TRELOGAN. Yes. We have been making a contribution to that program. One of the main things we have been doing thus far is trying to assemble the types of background statistics and information about markets and marketing opportunities that would be useful to people in local communities when they are trying to assess business potentialities and the prospects for success if they were to launch any of the enterprises which they might have under consideration.

We have a small group of analysts who have been anticipating the kinds of information that would be relevant to making a good decision with respect to whether a local group should try or should not try particular enterprises. Then the analysts are trying to develop outlines of the kinds of statistics local people will need to assemble and in addition provide the national or regional statistics that are available, which pertain to the problem. We hope we can help to adapt the information to local situations and to the problem at hand when particular proposals are presented for study.

Mr. MARSHALL. Can you estimate about the amount of money you have spent in your Department?

Dr. TRELOGAN. Yes.

Dr. HERRMANN. $29,000 on the part Dr. Trelogan is talking about. The remainder of the work is being carried on in another division.

Mr. MARSHALL. Could you estimate how much you intend to spend this coming fiscal year?

Dr. HERRMANN. I believe it is about the same amount. Is that right?

Dr. DELOACH. We will probably have a little more invested in it this coming year. That may run up to $35,000 next year.

Dr. HERRMANN. I might comment in connection with the item Dr. Trelogan mentioned, that is on the matter of getting statistical and other materials together for local groups and extension services. Dr. DeLoach's branch is preparing a handbook, of which I have a rough draft that is ready for printing. That book will provide through a looseleaf arrangement, guides to local committees interested in obtaining various types of information in their counties, or whatever area they are working in. The information so obtained will present a picture of the economy and the general structure of the market they are concerned with. It will cover such items as natural resources, human resources, agriculture, manufacturing, construction, miscel-

laneous industrial, public utility, and distribution facilities, banking, financing, and educational facilities, and a good many other items of that sort. In gathering information each committee can take a leaf or two out of the handbook and use it as a schedule or guide in assembling information with respect to their inquiry. It will provide reasonably adequate background information for the development of a program in that area.

NEED FOR DIVERSIFIED FARMING

Mr. MARSHALL. A number of years ago one of the things that was troubling people, and I think it was mentioned in the veto of the McNary bill by President Coolidge, was what farmers needed to do was to diversify. It was his feeling, I think, in vetoing that particular bill, that the farmer would be in a better position by diversifying as far as his production was concerned.

I mentioned that as a background, because as I have gone throughout my district and other districts of the country, I have noticed that there has been a tendency on the part of the producers of some commodities, and particularly poultry, and dairy, to some extent, to become more specialized. That seems to be a reverse trend from the feeling that existed back not so many years ago.

I am wondering, Dr. Trelogan, since such a large proportion of our farm people in a State like Minnesota are on a diversified basis, what your Department is doing in order to assist these people in their marketing problems, so that at least they have an equal chance with the people who are engaged in specialized production.

Do you have any comment that you want to make on that?

SPECIALIZATION VERSUS DIVERSIFICATION

Dr. TRELOGAN. I would like to preface it by saying that the best we can do is help them get a more nearly equal chance rather than an equal chance, because I think those who specialize tend to get the economies of scale that permit lower costs and provide opportunities for greater profits generally. This comparison involves the same kind of conflict that exists between objectives of high incomes and security.

With diversification you tend to seek security in the sense that you are seeking income from more than one source so you won't be so vulnerable to adverse prices or markets for one product but you tend to be less efficient in each one of the component enterprises than you would be if you concentrated on one. The marketing costs tend to be higher also. Obviously, Mr. Marshall, if you are in the milk business and the local creamery can come out and get a big load when it stops at your farm, it is a more efficient stop than when the creamery truck has to pick up just a small load at a number of farms. There are advantages that go with size.

The best we can do is to try to help the people who do the assembly job, and do the handling of products for small producers, to bring these products together in such a manner that they can be sorted and graded into large uniform quantities that can be shipped in truckloads or carloads to the distant markets. We try also to figure out other ways and means by which the disparity between large and small

producers may be reduced. I do not think we could promise to put them on an equal plane costwise.

Mr. MARSHALL. Thinking in terms of one commodity which is in a distressed condition in my area, namely, eggs, which has tended to become somewhat of a specialized industry, some of our people feel it is the people who are in the specialized area who are actually ruining the market for the diversified operator. What specifically are you doing along that line to try to do away with some of this disparity?

CONTINUED STUDIES ON EGG MARKET MARGINS

Dr. TRELOGAN. Well, the first approach we are making there is continuing the studies Mr. Andersen has advocated, measuring the marketing margins for eggs moving from the different producing areas to the different marketing outlets. That is the best way of giving people information on what the competitive situation is and what kind of prices and costs they have to anticipate and be prepared to meet. Such research is designed to help the producers get a better understanding of what confronts them.

Our next is one of trying to help them devise ways and means of reducing the costs of marketing in the way that they may operate more competitively. One of the ways to do that in the type of situation you are talking about is to get the producers to produce eggs in larger quantities and more regular quantities with a higher quality so that when the eggs come into the assembly plants they can be sorted and graded in a manner that will yield higher returns.

We next try to figure out such things as how can the eggs be packaged least expensively, and what are the cheapest ways to ship them—by truck or by rail. This type of inquiry leads to such questions as should the retail packaging be done at the assembly point, or should the eggs be shipped in crates for regrading or resorting and consumer packaging at terminal market points or at retail points. Our objective is to ascertain the cheapest arrangements that will be advantageous in the competition in the markets that they want to reach.

IMPROVED MARKET RECEIPTS, MOVEMENTS, AND PRICE DATA

Along with this research we are trying to provide improved information on market receipts, movements and prices. That is we seek to improve the market news and other types of statistics that will help the shippers to exercise good judgment in selecting where to sell and the time to sell their eggs. These are among the best research approaches, we feel, to reduce this disparity.

Mr. MARSHALL. I wonder if you could tell me the proportion of poultry production that is now in commercial hands, or in a sort of specialized field as compared to the amount that is in the hands of the diversified operator.

Dr. TRELOGAN. I could not offhand.

Mr. MARSHALL. I wonder if you might supply that?

(The information requested is as follows:)

TRENDS IN SIZE OF POULTRY LAYING FLOCKS AND EGG PRODUCTION

Commercial flocks, those of 400 birds 4 months old or over, increased 67 percent during the census period April 1950 to October 1954. Large flocks of over 3,200 birds increased 103 percent. During the same period farm flocks with less than

400 birds decreased 21 percent; 147,000 flocks with over 400 chickens reported in the 1954 census were 4.3 percent of all farms reporting chickens.

In October 1954 the census found that 39 percent of the chickens were in flocks of 400 birds and over. Since the last census the trend toward commercial flocks has accelerated rapidly. Integration has entered the picture, particularly in 1956, whereby companies are helping to finance and provide a market with a guaranteed price to their cooperators. Also large individual operations have developed where the operator manages many thousands of layers.

There is very little information available currently on the number of commercial flocks or eggs produced by these flocks. The item of increase under crop and livestock estimates is included in the budget to help get an accurate estimate of the number of commercial flocks and egg production by these flocks. The best approximation is that about 45 percent of the Nation's layers are in commercial flocks and that they produce about 48 percent of the eggs.

MORE EGG MARKET INFORMATION NEEDED

Mr. MARSHALL. In my area there were two large produce houses that handled a considerable proportion of the eggs in that particular area. They complained to me—and I am giving you this background—they complained to me about the egg situation and said it had gotten so that it was almost impossible for them to anticipate what the market was going to be at such and such a time. They said such a large percentage of the eggs were going to places outside of the regular marketing channels that nobody could anticipate just when eggs were coming out of the market and when they were not. They said the egg quotations they were following came from, I think they said, Berry's at Chicago, and it was based on such a small percentage of the marketing of eggs that a few extra shipments of eggs right at that time might break the market and they were unable to meet the competition on that basis of uncertain marketing.

I merely mention that because since these two produce houses have closed and that places the small operator at a still greater disadvantage in my particular area. Could you comment on that phase of the egg market?

Dr. TRELOGAN. Yes. I think this is a very good illustration of what I was talking about earlier when I was stressing the importance of changes in market organization and practices that are accompanying the growth of markets and firms. It is true that farmers are able to sell more and more of their products outside of the terminal markets, such as Chicago and New York, for eggs. More products are trucked around those markets or are sold more directly in the manner referred to in livestock markets as direct marketing. You may recall the issues associated with that development.

Mr. MARSHALL. Very well.

NEED FOR STUDIES ON CHANGES IN MARKET PRACTICES

Dr. TRELOGAN. Such developments are transpiring all over. It is not just eggs. It is true of products throughout the whole system. We feel we need to study the changes that are taking place and how market practices are being altered, and acquaint farmers with the situation so they may know how to adjust to the new marketing pattern.

This problem of pricing eggs at the terminal markets is something we are fully cognizant of. We are engaged in a series of studies in the New York, Chicago, St. Louis, and Los Angeles markets to ascertain

just how those prices are arrived at and how significant they are in terms of being representative of the entire egg market. One of the reasons for this type of study is to help the market news people obtain what might be regarded as prices more representative of the whole market. Prices on eggs coming across a terminal exchange, when most of them are bypassing it, may be representative of only residual supplies.

Mr. MARSHALL. Of course, this is the Appropriations Committee and it is not the legislative committee. Recognizing that we have a problem, has the Department made any recommendations to the legislative committee as to how this might be handled legislatively?

Dr. TRELOGAN. As research people we have not endeavored at any time to make recommendations on that. We feel if we make the facts available to both the opponents and proponents of these changes that we are serving the best function leading to the best decisions on the part of legislators as well as businessmen.

FUTURES TRADING IN THE EGG INDUSTRY

Mr. MARSHALL. I was told by some of these people that the margin on futures trading of eggs had not been changed for a number of years and in fact the margins were so low it was easier for people to pay a penalty of passing over the margin rather than stay within it. Have your studies disclosed anything along that line which would show that there is some justification for people in the marketing of produce to do that sort of thing in futures trading?

Dr. TRELOGAN. We have not devoted any studies to futures trading of eggs recently, but we have directed studies to potatoes and onions. We hope to undertake studies of relationships of futures markets to other products soon.

Mr. MARSHALL. However, a study along that line would be something under the jurisdiction of your department?

Dr. TRELOGAN. Yes; we would be pleased to conduct such research.

Mr. MARSHALL. Also we hear something about the problem in connection with the marketing of honey. Have you made any studies along that line to show the problems of producing honey and that their prices are suppressed?

Dr. TRELOGAN. No; we haven't.

Mr. MARSHALL. I have one other question on eggs, dealing with the matter of handling. Probably this is a question that should have been directed to Dr. Shaw, but I am going to ask you. Have you made any recent disclosures as far as a better way of handling eggs is concerned, rather than the shell egg?

STUDIES OF EGG HANDLING METHODS

Dr. TRELOGAN. That is properly directed to me from the standpoint of market handling. We have continued our research to find ways of candling eggs mechanically. We have made good progress.

An electronic machine we developed for detecting blood spots in eggs is now being adapted commercially. It has been field tested on the west coast in the past few months and promises to be a very successful operation that will fit into a line operation very nicely. We have done the same thing with the green rot detector, which

represents an improvement over hand candling. Human beings could not detect the rot by candling. This machine is also being field tested and will be produced commercially for the selection and sorting of eggs.

RESEARCH ON VARIOUS CANDLING TECHNIQUES

We have not licked the problem of how to mechanically measure the viscosity of the albumen in eggs. The candler does this when he revolves the eggs and observes how much he swings the yolk. We have devoted considerable work to this problem in the last few years but simply have not succeeded so far. We are now hoping we can try some new ideas on different ways for measuring it. That is the big hurdle between mechanical candling and the manual method.

Recognizing we may not accomplish mechanical candling in the near future, we have also devoted some research to improving the efficiency and techniques of hand candling. This research is seeking better procedures and methods to detect the defects in eggs under the hand candling system. We have made considerable improvement in that area.

Is that what you had in mind?

Mr. MARSHALL. That is part of what I had in mind, but my thinking was more directed toward the fact that many of our eggs move in the shell form. It goes to the grocery store and the housewife buys the eggs in the shells. The shell is porous, of course. An egg may be in very excellent shape when it leaves my farm, but it may come in contact with other things that may cause deterioration of that egg very rapidly as it meets such things. Also there is a matter of breakage concerned which I understand is quite extensive, particularly on some of the better quality eggs. The good-sized egg quite often breaks in the filler.

Dr. TRELOGAN. That is right.

Mr. MARSHALL. Also, some of the eggs that are in excellent shape, that are a little bit odd shaped, may not move into the trade too well, which is an expensive thing and also adds to the cost. What I was wondering about, and you answered part of my question—but part of what I was concerned about was what attempt and what progress has been made as to what might be done in order that the consumers of this country might buy eggs that are packaged as efficiently as some of our other commodities are and could be moved to better advantage?

EGG-PACKAGING METHODS

Dr. TRELOGAN. We have done considerable work in this area. I think we have contributed to an improvement in the size and shape of fillers and boxes to take care of the eggs. We have found along with this that it is not a matter of just what the producer or farmer wants but also what the consumer wants. To sell more eggs is the real objective

We find from our studies almost invariably the consumer wants to see those eggs. She does not like the opaque egg carton. Efforts have been made to design a different type of carton that would give her the satisfaction of seeing the egg, because merchandising studies indicate that when she is able to see the eggs she is getting, she buys more eggs than she does when she does not have the opportunity to see them.

So we are trying to get the two advantages together in a carton which will protect the eggs, to provide better quality, and at the same time let the buyer see the eggs and thereby attract more purchases.

Mr. MARSHALL. You have reached this point in the handling, have you not; that you could say to a housewife that you could get a better quality egg in some other form than the shell?

Dr. TRELOGAN. Yes.

Mr. MARSHALL. Better than you can get in getting a shell egg?

Dr. TRELOGAN. Yes.

Mr. MARSHALL. It is just the matter that she has not made the adjustment to that way of buying eggs. Would that be the block?

Dr. TRELOGAN. There is one other point, and that is the cost. We can get a lovely plastic carton to let her see all of the eggs, but whether this can be done at the price she wants to pay is another matter. Then you can go as far as they have at Cornell University where they have taken the eggs out of the shell and put them in individual plastic containers attached together so that you can peel one off at a time. That protects the eggs perfectly and is most convenient. Only restaurants that need a specialized product of that sort, where they want to handle it much more conveniently, are likely to be able to afford the price for this sort of development.

EFFECTS OF MILK-VENDING MACHINES ON CONSUMPTION

Mr. MARSHALL. Mr. Trelogan, we have been much interested in the consumption and marketing of milk in milk-vending machines. Could you make a comment about what that has meant as far as increased consumption of milk and marketing, handling, and so on?

Mr. TRELOGAN. Yes, sir. We have been trying to devote some studies to the increased consumption resulting from the introduction of vending machines to milk distribution, and also trying to measure what the potential possibilities of expending the market may be from this. We have a project going currently, in cooperation with West Virginia University in the eastern Panhandle of West Virginia, where we are trying to put milk-vending machines at every location that would appear to be reasonable within an entire market. The vending machines are continuously supplied to see what the results would be in terms of change in the total consumption of milk in the market. The change is measured as a net change coming from the convenience aspects of milk being made available through vending machines. The study is not finished yet. We hope to find out what the potential results may be from continued use of the vending machine.

Mr. MARSHALL. I might say that we are glad that you are making a study.

Mr. NATCHER. Dr. Trelogan, I want to thank you for the fine statement that you made to this committee, and to say to you, quite frankly, that I think your division has many achievements to its credit. On two occasions you mentioned the agricultural commodity that always pays its way; the one that pays to the Federal, State, and local taxing units approximately $2 billion a year in taxes.

TOBACCO RESEARCH STUDIES CITED

One of your studies, Dr. Trelogan, I believe pertained to insects and worms and then the drying and handling process.

Dr. TRELOGAN. Yes.

Mr. NATCHER. As you know, Dr. Trelogan, tobacco has undergone considerable change in the last 3 years as the result of quality changes. This commodity needs more research now than at any other time in its entire history, Dr. Trelogan, and, as a matter of saving time, I wonder if you would place in the record at this point a short statement concerning these two particular studies, and especially the new study you mentioned?

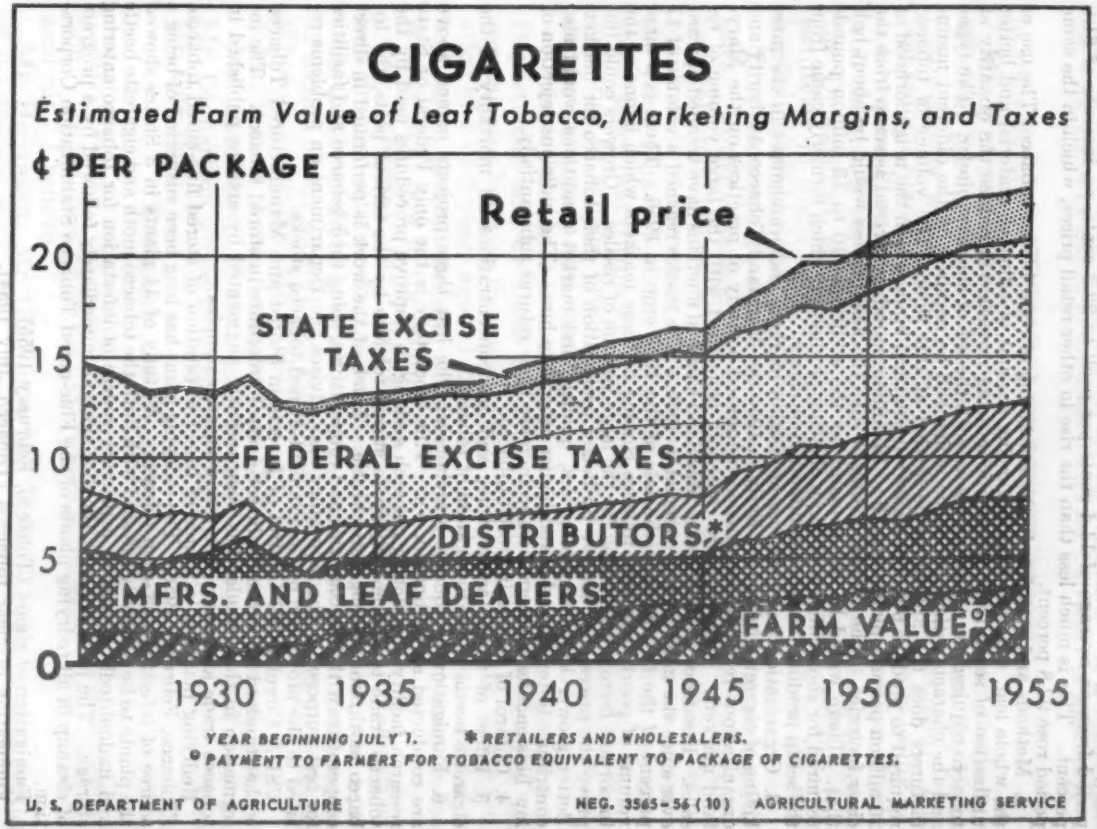
Dr. TRELOGAN. We will be glad to provide for the record some of the information on some of the recent work we have done on tobacco, and also give brief descriptions of the work we propose to do in the coming year.

Mr. NATCHER. Thank you, Dr. Trelogan.

(The material referred to is as follows:)

TOBACCO MARKETING RESEARCH

The chart below illustrates some of the points indicated by Mr. Natcher, and provides a breakdown of the proceeds from cigarette sales among the farmers, market agents, and taxing agencies.


CIGARETTES
Estimated Farm Value of Leaf Tobacco, Marketing Margins, and Taxes
¢ PER PACKAGE
Retail price
20
STATE EXCISE TAXES
15
FEDERAL EXCISE TAXES
10
DISTRIBUTORS*
5
MFRS. AND LEAF DEALERS
FARM VALUE°
0
1930
1935
1940
1945
1950
1955
YEAR BEGINNING JULY 1.
* RETAILERS AND WHOLESALERS.
° PAYMENT TO FARMERS FOR TOBACCO EQUIVALENT TO PACKAGE OF CIGARETTES.
U. S. DEPARTMENT OF AGRICULTURE
NEG. 3565-56 (10) AGRICULTURAL MARKETING SERVICE

A number of projects of direct application to the marketing of tobacco are being conducted by the Marketing Research Division. These include:

1. Margins and costs for tobacco leaf and tobacco products: Some of the effects of changes in consumption, in inflationary pressures, and in the organization and operation of the industry on costs and margins can be illustrated by changes in margins on cigarettes for 1939 and 1955. Prices of cigarettes at retail rose in the period from an average of 14.4 cents per pack to 23.3 cents, an increase of 61.8 percent. This is much less than the rise in other retail prices, which in the same period rose 92.8 percent.

2. Methods and practices in the marketing of cigar binder tobacco: The use of the whole leaf, together with a varying amount of adhesive material and better utilization of scrap from the manufacturing process will reduce the quantity of tobacco required per thousand cigars with the use of this new binder. The types and the characteristics of tobacco which will be required by the different manufacturers does not appear to be settled at this time. The volume of tobacco required to produce 6 billion cigars with natural binders is in the neighborhood of 20 million pounds, plus about 10 to 13 million pounds recovered as scrap from the cigar factories. The tobacco required with the new process would be about half that. There would be the demand for the additional 10 to 13 million pounds required for short fillers and scrap chewing production which formerly came from the scrap produced in the manufacture of cigars.

3. Organization and practices of auction markets and warehouses in the marketing of cigarette tobacco. Early in 1956 the Maryland Tobacco Authority and organizations representing growers requested a study of practices on the Maryland markets. Growers were especially concerned with the large volume of resales. Resales of tobacco on the Maryland looseleaf auctions have trended upward ever since the markets were opened in 1939. The resales reached a volume of 17 percent of the first sales in the sale of the 1955 crop in 1956. There is a large volume of poorly prepared tobacco coming to these markets which is one of the important factors accounting for the large volume of resales. Growers could improve the prices they receive by better preparation of their tobacco for market. Better grower knowledge of prices, quality, and market conditions would also contribute to fewer resales and higher returns to him. The judicious rejection of low bids enables some growers to increase their returns substantially.

4. Control of insects in stored tobacco.

5. Effect of time, temperature, and gas concentrations on mortality of the cigarette beetle in the fumigation of tobacco.

6. Fumigation of tobacco warehouses: The last three projects named above are conducted at Richmond, Va. This laboratory is the only Federal or State research facility conducting research seeking to improve procedures used by the tobacco trade to prevent injury to stored tobacco by the serious pests, the tobacco moth, and the cigarette beetle. Much of the work is performed in direct cooperation with tobacco firms and cooperatives, using their tobacco and facilities for test purposes. The laboratory also advises the Department on problems related to the protection of Government-owned tobacco stocks.

USDA Circular 869 Control of Insects in Stored and Manufactured Tobacco is the standard reference for insect-control procedure in stored tobacco. The information in this circular has been recently augmented by articles published in tobacco trade journals. The following are examples:

Redrying plants as a source of insect infestation of stored flue-cured tobacco, (Tobacco, February 1956): The redrying plant has long been suspected of being a source of infesting new-crop tobacco. A study of 34 plants in 3 States showed the plants to be generally infested with both the tobacco moth and cigarette beetle and undoubtedly served as a primary source of infestation for tobacco entering storage. The publication of the findings was immediately followed by a program of cleanup in all redrying plants of the Flue-cured Tobacco Stabilization Corporation.

Fumigation of cigars (Tobacco, February 1955).

Fumigation of cigar tobaccos (Tobacco, July 1954).

The tobacco moth as a pest in farmers' pack houses (AMS–BS–CA 4).

Timing of sprays to control the cigarette beetle (AMS 49, May 1955).

The use of the recommendations contained in this paper resulted in a decrease of 50 percent in the free-flying cigarette beetle population in warehouses where the suggested new schedules were followed.

TOBACCO HANDLING

The 1958 budget request will permit the initiation of work on improved methods, equipment, and facilities for handling, storing, and marketing tobacco. Initial emphasis should be given to problems connected with handling of tobacco on sales floors. This work should include tests on a complete conveyor system for handling tobacco into, within, and out of sales warehouses. It is contemplated the work will be conducted in cooperation with the University of Kentucky.

STIMULATION OF TOBACCO EXPORTS

Mr. WHITTEN. In our recent visits to the European markets in Western Europe, various people pointed out to us that the United States grower was getting no increasing share of the demand. They pointed out numerous places where American tobacco was losing out, not because it was not of good quality, but strictly because of price. And that leads me to believe that, unless we do something to require the Department of Agriculture to sell this tobacco surplus competitively in world markets, foreign countries will pick up the ever-increasing world demand and we will lose it.

That happened to cotton for years where we held up competitive sales. Notwithstanding full authority in the law, the Department held cotton off the world market for many years. As a result, foreign countries kept increasing cotton production. It strikes me, from all the years I have been on this committee, that tobacco is just about at the place that cotton was 3 or 4 years ago. We are inviting foreign countries to expand production and we are paying storage on this surplus tobacco in this country.

I mention this here because we need some real soul searching by the Department and by those from the tobacco areas, and some real comparisons between the tobacco situation today and the cotton situation of 2 or 3 years ago. I know it ruined us in cotton. And if we had taken prompt action, we would have 25 percent more cotton acreage right now in the South.

Mr. ANDERSEN. Mr. Chairman, the problem I want to take up will be a problem relative to removal of surplus egg production, and I presume that it would be better if we would wait until we get to the section 32 section on the school lunch portion of the bill before we go into that. What do you think, Mr. Wells?

Mr. WELLS. I would suggest that Mr. Lennartson present that.

Mr. ANDERSEN. At that time I would appreciate it if you and Mr. Lennartson would be available. But I will wait until that time, Mr. Chairman.

ECONOMIC AND STATISTICAL ANALYSIS

Mr. WHITTEN. No further questions, then, on this particular section? We will pass on to the next, which is "Economic and statistical analysis," I believe.

Mr. Herrmann. Mr. Chairman, Mr. Wells will handle that portion of the discussion.

Mr. WHITTEN. You might proceed, Mr. Wells.

Mr. WELLS. Mr. Chairman, this item is the subproject B on page 7 of the record, which was inserted at the beginning of this hearing. It includes work in three fields: Analysis of factors affecting the price, supply, and consumption of farm products; farm income work; and our farm population and rural development work.

(The matter referred to is as follows:)

NOTES ON ECONOMIC AND STATISTICAL ANALYSIS

PURPOSE

This activity provides analyses of the economic situation, trends, and outlook for farm products, including factors affecting price, supply, and consumption; a reservoir of current economic data on the situation for all the principal agricultural products and for agriculture as a whole; development of average and parity prices and keeping current the many indexes and series; data on farm income, agricultural history, farm population movements, labor supply, wages and wage scales, and levels of living. Much of the work is conducted in cooperation with the land-grant colleges and other State institutions.

CURRENT WORK

1. Facts and analyses developed under this activity are made available through the issuance of about 90 outlook and situation reports during the year, of which over 80 originate in this Division. The reports presented at the annual outlook conference in November 1956, contained not only appraisal of economic prospects for farmers during the coming year, but also for a 10- to 15-year period in the future. A new outlook report for rice has been inauguarated. Direct assistance is being given to the western regional livestock project, and the outlook and situation work has been strengthened in several commodity fields, particularly cotton, fruits, and vegetables. A heavy load of service work to meet requests of the Congress, for representatives of farm interests, the Secretary's Office, the farm press, and the general public is also carried under this project.

2. The work under this project includes the development and maintenance of farm income estimates by States and for the Nation as a whole. Estimates of net income by States were developed in 1955 and are now maintained on a regular basis. The Department has the responsibility for supplying farm income estimates as part of the national income accounts released by the Department of Commerce and by the Joint Economic Committee in Economic Indicators. These series include estimates of gross income, production expenses, and net income, both aggregate and on a per farm basis.

A survey of farmers' expenditures, including items purchased for farm production and for family living, was conducted during the fiscal year 1956. The data from this survey have been tabulated and will soon be released. This will provide the raw materials for improving the various estimates of production expenses, net farm income, and nonfarm income received by farm people. Under this project, also, there is continuing study of the relation of farm to nonfarm income, and the effect of changes in the national income upon the demand for farm products, including long-term projections of the demand requirements for food and other farm products.

3. The Agricultural Marketing Service has general responsibility for basic estimates and analyses of farm population, farm manpower, and general trends affecting rural life. In the past year special emphasis has been given to research relating to rural development. In connection with rural development, 4 different types of studies are being conducted in cooperation with 10 experiment stations. These studies include: (1) Ascertaining the effects of the establishment of new industries in low-income rural areas on the level of living of rural people; (2) the availability and utilization of health facilities in rural areas; (3) the role of general and vocational educational programs in influencing occupational adjustments of rural youth in low-income areas; and (4) the effects of extension of social security to farmers.

FUND REQUIREMENTS

There is $1,464,500 available for this work in fiscal year 1957. The budget provides for an increase of $183,300 (plus $75,500 for retirement costs on the 1958 base), comprising a small increase for economic research, chiefly to allow more detailed regional analysis, as well as funds to assist in strengthening our estimates of farm expenditures in order to give more accurate farm-income estimates both for the United States and State by State. Our data on farm income and production expenses are being improved as a result of the special survey of farmers' expenditure patterns for 1955. However, annual or recurring checks are also needed, due to the rapid changes in conditions which affect agriculture and the increasing importance of cash expenditures in the farm production picture.

The amounts proposed for the work in these two fields are: $26,000 for additional cooperation with State and regional groups interested in developing improved outlook materials and services, and for basic research on the effects of price on production of selected agricultural commodities and on factors affecting geographic differences in farm prices. $157,300 for regular collection of data on farm income and production expenses. Data would be collected from a small nationwide sample of farms, to provide information on the broad trends affecting farm income and farm expenditures during the year. In addition, the sample would be designed to provide detailed information in a particular region each year. In this way, the annual survey would provide for continuing up-to-date information on major items of farm income and expenses for all of agriculture and, on a rotation basis, considerable detail for each of the regions.

Mr. WELLS. We are asking for an increase of $75,500 to cover the shift of the employee-retirement contribution to the regular appropriation and, in addition to that, for 2 increases for program work; 1 for $26,000 in the field of price, supply, and consumption analysis, and 1 of $157,300 for farm-income work.

Mr. Chairman, the kind of work that we do under this project was described at some length in my opening testimony, and unless you want me to discuss in some detail what I reviewed, I would prefer——

Mr. WHITTEN. No; proceed.

INCREASE PROPOSED FOR PRICE, SUPPLY, AND CONSUMPTION ANALYSIS

Mr. WELLS. The increases are described on page 18 of the record. The first increase we are asking for is $26,000 for improving coverage of outlook and situation analysis, and for basic research on factors affecting prices, supplies, and utilization of farm products.

Last year, Mr. Chairman, the committee allowed us $92,570 for the purpose of strengthening our analytical work. This $26,000 will allow us to do more in the way of regional analysis, including some attention to the factors which account for the geographic differences in prices over the United States.

We are getting, as we move through the years, increasing requests not only for what the situation is within the United States, but what the differences are between regions. We are working increasingly with the Extension economists and the people at the State agricultural experiment stations on regional analyses of one kind or another which they make, and which we think makes our work much more valuable to farmers, generally, over the United States.

REGULAR COLLECTION OF DATA ON FARM INCOME AND PRODUCTION EXPENSES

We are asking for an increase of $157,300 to be used for the regular collection of data on farm income and production expenses. With this sum we can institute an annual survey which will help us keep track of the changes in farm expenditures from one year to the next in much more accurate fashion than we are doing, not only for the United States but for the various regions which will substantially strengthen our estimates by States, as well as supply us other statistical material which will be useful in this whole field of price, supply, and income analysis.

The increase would call for the creation of 12 new positions during the coming year. After allowing for lapses in the part-time employment of the people, we estimate that this increase would call for about 10 additional man-years of work on our regular staff.

Mr. WHITTEN. Mr. Marshall, any questions?

PERSONNEL RECRUITMENT SITUATION

Mr. MARSHALL. Do you anticipate any recruitment problems in connection with these new employees?

Mr. WELLS. In this particular field, Mr. Chairman, I would expect nothing but the normal problem of trying to find one or two professional men who are particularly fitted to lead the project. Of our proposed increase of 12 people, 8 of them are in the lower grade and clerical service field, and 2 of them in the intermediate field.

We did have an increase last year in this subappropriation of $92,570 to strengthen our outlook work and this Division also received $125,000 for rural development studies. We have been able to utilize those two increases, which are substantially greater in terms of employment of personnel; we have been able to staff those two adequately.

The largest increase we are asking for here is the $157,300 for farm-income work. Most of that would go into the actual fieldwork of interviewing farmers and would go for part-time interviewers, machine tabulations, and so forth. We very successfully conducted a much larger study of a similar nature 2 years ago, and I do not think we will run into any real personnel recruitment difficulties in this field.

Mr. MARSHALL. How many employees did you have in this work as of December 31, full-time employees?

Mr. HOLMAAS. Full-time employees within the Agricultural Economics Division on that date totaled 162, as compared with 133 at the beginning of the year. We have been able to obtain 29, which represents the planned increase with last year's increase in funds.

Mr. WELLS. These are full-time, regular employees, Mr. Marshall. In addition, we have some part-time and other people, who bring the total man-years to about 200, I believe.

RURAL DEVELOPMENT PROGRAM

Mr. MARSHALL. How much money do you expect to spend on the rural development program in your division this coming year?

Mr. WELLS. Mr. Chairman, in this Division during this particular year I expect we will spend $125,000 to $135,000 on rural development work. We have 12 different studies now going in cooperation with 10 different experiment stations. We are not asking for an increase in rural development funds for next year.

At the time that we appeared before you last year we indicated the kind of studies we had in mind would take 2 or 3 years and that we would seek the cooperation of State experiment stations. Our people have been very successful in getting that cooperation. So although we are putting in about $135,000 of direct funds, those funds are being augmented by a considerable amount of leadership and supplementary funds from each of the cooperating State experiment stations. The Agricultural Economics Division has 12 studies started in this field, covering 4 different lines of work. We are, working in 3 or 4 States, studying the situation which develops when a new industry has come into existence in an area; to see who is being employed, what class of farm people are being employed; whether they are still living out in open country on the farm; whether they are moving from the farm, and what effect this is having on farming operations in the area and on farm standards of living.

In addition to that, we have, in two States, I believe—Kentucky and Pennsylvania—been able to get projects which will give us a first lead on the problem of education and what happens to the farm boys or girls with certain educational backgrounds as they grow up.

In other words, one of the long-term difference questions in this field is what kind of education is best for rural citizens, not only from the standpoint of remaining on the farm, but also if they leave the farm. So we have two studies on that field.

We have expanded our work in two States having to do with rural health facilities and the way farmers can improve and more fully utilize health facilities that may be available to them. We also have work started in four States which is giving us the first survey information on farmers under the Social Security Act, the extent of their knowledge and participation, what their experiences and opinions are, what kind of problems are being raised in that field.

In addition to that, Mr. Herrmann has indicated to you the companion work done in the marketing field.

Mr. MARSHALL. When you review your statement, will you go over the record and include any project of the 12 which you may have overlooked so we may have each one of those 12 projects identified by what you are attempting to do?

Mr. WELLS. I will be very happy to include a progress statement on work in the rural development field, where we will indicate what each of these 12 projects is and also cover the marketing portion that Dr. Herrmann briefly discussed.

Mr. MARSHALL. That will be fine.

(The material referred to is as follows:)

FEBRUARY 1, 1957.

SUMMARY OF PROGRESS OF RURAL DEVELOPMENT RESEARCH IN THE AGRICULTURAL MARKETING SERVICE

Two divisions of the Agricultural Marketing Service are carrying on research dealing with problems of rural development.

AGRICULTURAL ECONOMICS DIVISION

The Agricultural Economics Division is engaged in a program of research in rural development involving 12 projects on a cooperative basis with 10 State experiment stations during the 1956–57 fiscal year. The Division contributed or will contribute, in addition to overall planning services, funds and professional services as follows: Enumerators for 11 State cooperative projects, data processing clerks for 5 projects, tabulation expenses for 3, and statistical analysts for 7 projects. It is also anticipated that members of the Washington staff will coauthor a number of the reports when the data become available for analyses.

One series of studies, which is in process in Ohio, Mississippi, and Louisiana, is concerned with uncovering the effects of the establishment of new industries in low-income rural areas on the level of living of rural people and on their occupational adjustments. In Monroe County, Ohio, the impact of the introduction of multimillion dollar industries and expanded transportation and communication facilities into a predominantly rural and low-income area is being studied. In Mississippi and Louisiana a sample of employees of a recently established industrial plant in selected rural areas in each State, together with a sample of the rural residents in the surrounding areas, will be enumerated. The overall plans and preliminary questionnaires for the studies in all three States have been developed. The actual field enumerations are scheduled to take place in March or April 1957, and much of the data processing will be completed before the end of the fiscal year. In Mississippi the Division is also cooperating in a study on county development which the State agricultural experiment station has had underway for several years. This program of work in Alcorn County involves appraisal of development programs very similar in objectives to the rural development program.

The Division cooperated with the agricultural experiment stations of North Carolina and Georgia in studies of the availability and utilization of health facilities and participation in voluntary health-insurance programs by rural families in low-income areas. In each State the studies were conducted in 2 counties and included about 700 interviews. The enumerations for both studies have been completed and reports will be available shortly.

Studies to appraise the availability and utilization of educational and vocational training facilities in rural areas and to ascertain the relationship between the type of education received and the later migration histories and occupational adjustments of rural youth are underway in Pennsylvania and in the planning stage in Kentucky. It is expected that in Kentucky a field survey will be completed by the end of the fiscal year. The Pennsylvania study consists of a reenumeration of persons who were originally interviewed in 1947 as sophomores in a statewide sample of rural high schools in Pennsylvania. The Pennsylvania State Experiment Station is in the process of reenumerating those people who still reside within the State. The Division will be responsible for enumerating those persons who have migrated outside the State. It is anticipated that additional studies on the educational preparation of rural youth will be developed next year for other areas, possibly the cutover region of Minnesota, Wisconsin, and Michigan.

Another set of projects is concerned with studying farmers' economic security in old age to gage the developing effects of the recent extension of social security to farmers and hired farmworkers. Studies to determine farmers' attitudes toward and knowledge of the social-security program are in varying stages of completion in Maine, Kentucky, and Texas, and one is about to begin in Iowa. Both the Kentucky and Texas surveys consist of a restudy in one county enumerated in an earlier social-security survey plus one or more counties which had not previously been surveyed. A preliminary report on the Kentucky study is in press and a similar report for Texas is in process. The enumeration for the social-security study in Maine has been completed and the data are being processed. It is anticipated that a report will be completed by the end of the fiscal year. In Iowa a questionnaire is being developed and the field survey will be conducted in the spring.

In addition to the work under the rural development program, the Division continued, during the 1956–57 fiscal year, its regular program of research and service work in the areas of farm population, farm-nonfarm migration, migratory farm labor, farm employment, and levels of living of farm-operator households.

MARKETING RESEARCH DIVISION

In December 1956 a list or statement was released for distribution indicating the marketing and processing facilities for agricultural products which might be considered for establishment in or near low-income farm areas.

In January 1957 a manuscript, Major Manufacturing Industries in the United States as Employment Opportunities in Low-Income Farm Areas, was submitted for clearance and publication. The report showed, on a State basis, the increase or decrease that took place in 1947–54 in the number of manufacturing establishments and persons employed by them. Special reference was made pertaining to the development in the southern low-income farm areas.

A rural development program handbook is in manuscript form. The need for this handbook has been recognized. Its purposes are to aid the State and local committees in discovering and reporting essential information as a basis for formulating plans for improving the economy of the low-income farm areas and to aid in coordinating the efforts of the various agencies and committees taking part in the rural development program.

DATA ON RESEARCH PROJECTS, INITIATED AND COMPLETED

Mr. WHITTEN. The continuing problem we have in research, particularly of moving on from work that has been solved or where no answer seems to be forthcoming, is that the Department officials have a tendency always to just ask new funds for new work.

I believe it would be well to show as a matter of record every year the number of new projects, the number of new employees, and the number of projects completed.

In other words, let us see how many new projects we are going to have with new people, and how many new projects we are going to have with regular people who have completed whatever they might have been doing.

I think, to keep up with research, it is very important that we approach it that way. I believe it would be well to have the record carry that.

PROCEDURE FOR APPRAISING RESEARCH NEEDS

Mr. WHEELER. I believe it would be too, Mr. Whitten, because I am sure that it would show, as you have indicated, that within these fields of work there is constant reappraisal, stopping of specific pieces of work, initiation of other pieces of work, without asking for increased funds. That goes on all the time. At the early stages of the budget process, that is the issue: How many of these new things, how many of these things that the advisory committees recommend, how many of the things that our own people see must be done, how much of that can be handled by shifting, by picking up funds from other specific but closely related lines of work that are nearing completion? And that is a matter of constant program review that is going on all the time, and results in a situation where we come to you asking for increases in certain broad lines of work to do specific things which we have determined, in weighing against the lines of work that are already underway or that are already going to be undertaken within existing funds, can be financed only by additional funds.

LINE PROJECT ACTIVITY

Mr. WHITTEN. I want to say again it has been my experience with Mr. Wells and Dr. Shaw and the other folks in research that we can see that you folks try hard to do the thing we are talking about. You have different pressures and different problems. But I believe right now it would be a good thing to ask for this information this year and ask for it each year hereafter.

Mr. ANDERSEN. Mr. Chairman, if you will permit?

Mr. WHITTEN. Mr. Andersen.

Mr. ANDERSEN. I believe if the Department will follow your suggestion—and I am speaking now of research in this entire field——

Mr. WHITTEN. Yes, sir.

Mr. ANDERSEN. That it will do much to allay any doubts that any of us have as to where some of this considerable amount of money is being expended and also as to the justification for increases brought to us.

And I hope, Mr. Wheeler, what the chairman suggested will be followed not only for this year but annually hereafter, because I recall it was not too many years ago that the chairman did very good work in going into quite extensive detail in an attempt to weed out any suspicion that old projects, useless projects, had any money being expended upon them.

And a picture such as the chairman has suggested now, that it be done every year in the line of charts or tables, I think would be very effective.

Mr. WHEELER. We will be very glad to do that.

As I am sure you are aware, the organization of this justification book is such that in order to focus on the immediate budget issues of change we do show the increases and decreases and the project amounts first. But let me call your attention to the material called status of program, which, in order to help you distinguish it, we put on green paper in the book. This represents a boiled-down, succinct summarization of the work that is being financed from the amount that we have now, and in that respect is designed to explain or justify, by giving you examples, where a complete story would be too lengthy, of the value and character of the work that is being financed from the amounts available before the increases are added.

So we do try to give you, without making the justifications too terribly long—and they already are pretty long—we do try to cover in that way both of the elements of the retention, to the extent that we ask for it, of the existing funds into the future year, and then separately the increases or changes for the budget year are treated in the justifications at the beginning.

Incidentally, any suggestions at all that we could get from the committee along this line and along the lines of improving the presentation of the budget are always welcome.

It is quite a problem to know just how much can be usable and useful and at the same time how far we ought to pare it down for fear of failing to cover it as fully as it should be.

(The information requested is as follows:)

Financing New Research Projects

Budget requests for additional funds for new or expanded research work in the Department are submitted to Congress only after it has been determined that the work cannot be implemented through currently available resources. New or expanded work is often funded through moneys made available by (1) projects which have been completed, (2) lower priority projects which have been curtailed or discontinued, and (3) more efficient conduct of current research work.

Recommendations by Research and Marketing Advisory Committees

The 26 research and marketing advisory committees made 963 recommendations for new or expanded research at meetings held in the winter of 1955–56. Since some of these recommendations were considered by more than 1 of the 26 committees, there were a total of 664 problems on which new or expanded research was recommended. A single advisory committee problem may require for its implementation one or more research line projects.

Financing Work With Available Funds

The first step in the budget process is to determine the extent to which new work or the expansion of current work can be undertaken with available funds. It was determined that some or all of the work on about 360 of the 664 problems recommended by the advisory committees could be undertaken with currently available funds. The increases in the 1958 budget requests provide for work on about 200 of the some 500 problems recommended by advisory committees that cannot be implemented from available funds.

Changes in Research Work

During the calendar year 1956, 200 research line projects were completed, 91 were suspended or abandoned, and 250 were superseded through revisions in project statements, making a total of 541. Funds made available by these changes, together with additional appropriations, were used to expand work under current line projects and to initiate 423 new research line projects. The changes in line projects in calendar year 1956 by agencies are shown in the following table:

Changes in line projects—Calendar year 1956, with comparisons for calendar years 1954 and 1955

Agency	Active projects beginning of year	Additions			Subtractions				Active projects end fo year
		New projects [1]	Revised projects [2]	Total	Completed projects	Suspended or abandoned projects	Superseded projects [3]	Total	
Calendar year 1956:									
Agricultural Research Service	2,046	261	138	399	132	57	164	353	2,092
Agricultural Marketing Service	470	122	131	253	50	19	49	118	605
Farmer Cooperative Service	92	12	7	19	14	6	8	28	[4] 83
Federal Extension Service	174	25	28	53	3	8	29	40	187
Foreign Agricultural Service	12								12
Forest Service	229	3		3	1	1		2	230
Total	3,023	423	304	727	200	91	250	541	3,209
Calendar year 1955	3,209	515	465	980	410	228	528	1,166	3,023
Calendar year 1954 [5]	3,202	323	216	539	205	104	223	532	3,209

[1] Projects concerned with conditions, problems, or approaches not included in previous work of the originating agency.
[2] A restatement and bringing up to date of previously documented work.
[3] Projects whose work has been included in revised project statements.
[4] 32 of these projects are financed with AMS funds.
[5] Adjusted for comparability with calendar years 1955 and 1956.

MONTHLY REPORTS OF CHANGES IN RESEARCH LINE PROJECTS

The Department maintains a continuous review of the research work being conducted. To implement this review, all of the research work is organized by research line projects. Related research line projects are grouped together into work projects, and related work projects are grouped into the financial projects or activities shown in the President's budget schedules. Research line projects are approved for a limited period of time only, which may be 1, or 2, but never more than 5 years. A central project office has responsibility for surveillance of the research projects, for assuring that the projects receive the required review and approval, for obtaining annual reports of progress, and for requiring a review of all projects which have reached their time limit and obtaining required approvals for their termination or extension. Monthly reports are issued of the research line projects which have been approved or discontinued. These monthly reports are made available not only to the research workers of the Department, but to each of the State experiment stations to keep them currently advised on the changes in the Department's research program. As an illustration, the report of research line projects approved or discontinued during the month of January 1957, follows:

Agricultural Research Service, Central Project Office, line-project approvals and discontinuances recorded during January 1957

APPROVED LINE PROJECTS

ARS, crops research:

ENT a10–1 (Rev.):[1] Distribution of insects and mites in and near orchards where stone fruit virus diseases occur (Coop.: Wash., Oreg., Utah, Calif., and Wis. State Agr. Expt. Stations; PPC and HC).

ENT a10–11: Studies on the biology and control of mite vectors of peach mosaic disease (Coop.: Calif. State Agr. Expt. Station; PPC and HC).

ARS, farm and land management research:

PE e1–16: Economic analysis of the agricultural changes in Central Indiana from 1910 to 1956 and their causes and implications (Coop.: Ind. State Agr. Expt. Station).

PE e3–14: Economic appraisal of obstacles retarding desirable farming adjustments in the Piedmont Area of South Carolina (Coop.: S. C. State Agr. Expt. Station).

ARS, home economics research:

HN 2–13: Human metabolic response to diets containing selected patterns of essential amino acids.

HN 3–13: Palatability of cooked lamb as related to physical and chemical properties and to production and marketing practices (Coop.: AMS–LS, AMS–BS, and AMS–MD; and APH).

ARS, utilization research:

E6 2–58: Development of a rapid indicator test for the detection of antibiotics in milk that cause starter failures in cheese making (Coop.: DH).

E6 2–59: Effect of heat treatment on the stability of evaporated milk as determined by the calcium and phosphate ion combining capacity of heated milk proteins.

E6 5–8: Factors influencing the binding (capacity to retain moisture and form cohesive units) of meats and meat products (Coop.: AMS–BS; and APH).

N1 1–127: Methods for the separation and isolation of water- and alcohol-soluble acidic constituents of barley.

N1 1–128: The nature and amounts of viscosity-producing constituents of oats, including the chemical structure of selected carbohydrate gums in oat groats and hulls (Coop.: HC).

S2 1–85: Development of a reproducible test method for predicting the tendency of cotton to form naps during mechanical processing (Coop.: FC; and AMS–BS).

S2 1–104: Development of new type textile equipment for automatically opening and blending cotton from different bales in desired proportions.

S5 1–53: Development of quantitative methods for relating concentrations of nonsugar carbohydrates of sugarcane to efficiency of sugar recovery.

S5 1–54: Processing studies to establish differences in yield from juice of new as compared to commercial varieties of sugarcane (Coop.: FC).

[1] Supersedes project of substantially the same title which is not listed in Discontinuances.

S5 5–17: Preparation of new and useful byproducts by chemically altering ricinoleic acid obtained from castor oil.
W2 2–16: Studies on improved methods for bleaching wool that will produce a lighter colored product and avoid weakening or other damage to the fiber (Coop.: APH).
W5 1–51: The effect of molasses-forming substances on sucrose crystallization from sugar beet process liquors (Coop.: FC; and SU).
W5 1–52: Improvement of methods for the purification of sugar beet juice.
W6 1–41: Evaluation of those changes occurring in egg white during processing and storage which affect the quality and cost of egg white products.
W6 1–42: Basic investigations needed to develop improved or new methods of feather removal that will yield poultry meat products of optimum quality at a reduced cost of processing.

ARS, experiment stations divisions

TES VI 1–20: Livestock breed improvement investigations in the Virgin Islands.
TES VI 1–21: Livestock management investigations in the Virgin Islands.

AMS, marketing research:

BS 2–42: Development of methods for maintaining quality of shelled filberts in transparent plastic bags during marketing (Coop.: WU).
BS 2–43: Development of methods for maintaining quality of shelled pecans in transparent plastic bags during marketing (Coop.: WU).
BS 2–53*: Shelf life of shelled walnuts in transparent packages (Coop.: WU).
BS 2–54: Preservation of color and flavor in dates during storage and marketing (Coop.: WU).
BS 2–110*: Performance of fiberboard boxes for apple storage with respect to bruising and rate of cooling of the fruit (Coop.: Wash. State Agr. Expt. Station; and AMS–TF).
BS 2–126*: The effect of temperature and maturity on ripening of Florida mangos (Coop.: Fla. State Agr. Expt. Station).
BS 2–127*: Quality variation among individual fruits in commercial packs of Florida citrus.
BS 3–53: Development of improved methods and equipment for grading of farmers' stock peanuts (Coop.: N. C. State Agr. Expt. Station; AMS–FV; and HC).
MD 2–13: Development of new and expanded market outlets for fats and oils in plasticizers (Coop.: EU, NU, and SU).
OC 1–63: Margins, costs, and trade practices in marketing chicken fryers, eggs, and turkeys (Coop.: AMS–PY; and FCS).
OC 2–83: An appraisal of the adaptability of pooling requirements in fluid milk markets to changes in market organization and supply and demand conditions.
OC 2–84: Consolidation, integration, and merger among agricultural marketing firms, and their economic consequences.
OC 2–85: Changes in recent years in the United States textile industry and relation of these changes to operating costs and market outlets for cotton, wool and manmade fibers.
TF 1–2 (Rev.)*: Planning and promoting the development of improved market facilities for farm and food products in specific production areas or locations.

Farmer Cooperative Service:

FCS 1101–6 (Rev. No. 2): [1] Milk receiving costs in selected cooperative plants before and after converting to bulk methods (Coop.: AMS–OC and AMS–TF).

Federal Extension Service:

FES 2525–105 (Okla.): Improving the methods and facilities used in the marketing of vegetables, fruits and tree nuts in Oklahoma (Coop.: Okla. State Agr. Expt. Station).
FES 2525–113 (La.): An Extension program to develop and expand improved methods of marketing livestock and meat products in Louisiana. (Coop.: La. State Agr. Expt. Station).
FES 2525–122 (La.): An Extension program to develop an efficient method of selling, processing, packaging, grading, and marketing poultry and eggs in Louisiana (Coop.: La. State Agr. Expt. Station).
FES 2525–189 (Kans.): Providing marketing information for merchandisers of perishable farm products in Kansas.

FES 4525–25 (N. J.): The development of an improved food marketing program in New Jersey.
FES 4525–26 (La.): Consumer education in marketing agricultural products in Louisiana.
FES 4525–40 (Ind.): Assistance in providing marketing information for consumers of agricultural products in Indiana (Coop.: AMS–Market News Services).
FES 4526–9 (Hawaii): Demonstrating the use of crop and market information as a means of improving the distribution of farm products in Hawaii.

DISCONTINUED LINE PROJECTS

ARS, crops research:
ENT d21–2: Development of treatments for plants and commodities regulated by sweetpotato weevil quarantines.
ARS, livestock research:
APH a3–1: Protein, vitamin, and antibiotic relationship in reduction of death losses in young pigs.
APH a3–4: Determination of vitamin requirements for growth and reproduction in swine.
APH b2–2: The effect of various forages and roughages in diets on synthesis of nutrients in the alimentary tract of Herbivora.
DH b1–5: The utilization of dehydrated and pelleted alfalfa treated with antioxidants as a feed for dairy calves.
ARS, farm and land management:
AE b3–6: Evaluating electronic relative humidity elements for measuring moisture contents of grain in farm storage.
PE b1–3: Regional trends in the Farm Land Market in Wisconsin.
PE b2–3: Small Water Project Development Program of the Montana Water Conservation Board.
PE b3–4: Measurement of range productivity for economic analysis.
PE b4–2: Zoning for rural communities.
PE c1–4: Farm consumption of petroleum products and number of principal machines on farms.
SWC b7–1: Relation of basic data obtained in soil management research to prediction of crop yields under different soil and water management systems.
ARS, home economics research:
HN 2–3: Influence of the source of dietary carbohydrate on amino acid requirements.
ARS, utilization research:
E6 2–16: Identification and separation of the phosphorus-containing amino acids in casein.
E6 3–3 (Rev.): Evaluation of compounds derived from animal fats as plastics, plasticizers, adhesives and coatings by determination of physical properties.
E6 3–30: Preparation and evaluation of products from reaction of unsaturated components of animal fats with compounds of phosphorus and sulfur.
E6 3–31: Preparation of internally stabilized polymers and copolymers using long-chain acids derived from animal fats for use as permanently stable coating materials and flexible and rigid plastics.
E6 3–32: Investigation of tallow-based nonionic detergents as replacements for detergents based on imported coconut oil for household, industrial and military needs.
E6 3–34: Preparation of internally plasticized polymers and copolymers from long-chain acids derived from animal fats, and their evaluation for use as plastics.
E6 4–6: Chemical modification of hide proteins to produce new products or improved leathers.
E6 5–5: Improved quality of sausage and optimum utilization of the raw materials in sausage manufacture.
N1 1–76: Relation of molecular size, weight, composition, and other characteristics of corn starch to industrially important properties of modified starches.
N4 2–47: Evaluation of thermal diffusion as a method for the separation of components from solutions of complex mixtures encountered in utilization studies of soybean oil.

S2 1–13 (Rev.): Exploratory investigations to develop machinery and apparatus as an aid to improving quality and lowering cost of yarns and fabrics.
S2 1–37: Evaluation of new techniques for measuring the properties of single cotton fibers.
S2 1–49: Application of infrared absorption techniques to characterize chemically modified cottons.
S2 1–58: Evaluation of breaking elongation and tenacity of cotton fiber bundles in predicting processing behavior and product properties.
S2 1–66: Microscopical studies of the surface characteristics of native cotton fibers to provide fundamental information on the mechanism of soiling.
S2 1–67: Microscopical studies of the surface characteristics of chemically finished cotton fibers to provide fundamental information on the mechanism of soiling.
S3 5–1 (Rev.): Origin and nature of pectic enzymes in commercial cucumber fermentations responsible for spoilage, or softening, of cucumber salt stock.
S3 5–2 (Rev.): Development of practical methods of controlling pectic enzyme activity to avoid losses caused by softening spoilage of salt-stock cucumbers.
S3 5–4: Identity and relative quantities of different sugars in sweetpotatoes during storage and processing.
S3 5–8: Analysis of existing operations in sweetpotato processing plants to relate these operations to the production of acceptable food products.
S4 1–42: Conversion of linoleic acid—a component of cottonseed oil and foots—into derivatives of greater reactivity and utility for use in products such as polyester resins, protective coatings, and plasticizers.
S5 1–35: Determination of the effect of delayed processing upon milling characteristics of sugarcane and yield and quality of juice.
S5 2–8: Development of practical methods for making improved resinates of cobalt, manganese and lead, for use as paint driers to replace materials such as naphthenates.
S5 2–12: Development of industrial chemicals, including plasticizers and lubricants, from pinonic acid, a turpentine derivative.
S5 2–13: Investigation of the use of inexpensive oxidants for converting turpentine (terpenes) into acids useful in plasticizers, lubricants, resins and other products.
W1 2–11: Identification and measurement of constituents responsible for the desirable flavor of fresh white bread.
W1 2–12: Changes in properties of bread during freezing, frozen storage and thawing.
W1 2–13: The role of amino acid-disulfide bonds of cystine in providing properties to wheat proteins useful in baking.
W1 2–15: Development of practical processing preservation procedures for parboiled wheat products.
W3 1–59: Design and development of improved equipment for pasteurizing, sterilizing, and concentrating fluid-form fruit products.
W3 4–44: Effect of storage, at various locations, on quality of dehydrated white potato dice, dehydrated mashed potatoes (granules), and dehydrated onions.
W5 1–36: Investigations of the properties of soluble colloids of sugar beets and methods for alleviating their harmful effects on extraction and purification of sugar from sugar beets.

AMS, Marketing research:
OC 1–19: Comparative costs of quality deterioration and shrinkage of corn in different types of storage.
OC 2–17 (Rev.): Appraisal of methods and procedures in pricing cotton at major spot markets.
OC 2–42: Marketing of high protein hard wheat in the Northern Great Plains.
OC 2–43: Milk procurement practices and policies of selected Wisconsin Manufacturing Milk Companies.
OC 2–46: Major marketing problems of small diversified farmers in an area in Louisiana.
TF 4–9: Development and evaluation of cheaper and improved containers for Western fresh plums.

Farmer Cooperative Service:

FCS 3103–7: Survey of facilities and operations of frozen food locker plants in the United States.

FCS 3103–10: Improving cooperative merchandising of packaged milk by use of vending machines.

EXAMPLE OF FINANCING NEW RESEARCH WITH EXISTING FUNDS

A substantial portion of the Department's research program is financed from funds made available from the completion of projects. For example:

Utilization research—Southern region, action taken during calendar year 1956

	Old project discontinued	New projects undertaken	
Project number	S2-1-66	S2-1-111	S2-1-112
Title	Mircroscopial studies of the surface characteristics of native cotton fibers to provide fundamental information on the mechanism of soiling to improve cotton utilization.	A study with the electron microscope of the mechanism of microbiological degradation of cotton to provide basic information to the improvement of cotton textile products for increased utilization.	Microscopial study of the changes in morphology of native and modified cotton-lint cellulose fibers after exposure to high-energy radiations.
Total annual cost	[1] $42,195	$20,300	$20,830
Personnel (percent of time spent):	*Percent*	*Percent*	*Percent*
GS–13 Physical scientist	30	35	35
GS–12 Chemist		10	10
GS–9 Physicist	100	50	50
GS–9 Microanalyst		40	40
GS–7 Physicist	50		
GS–6 Physical science aid	10	10	15

[1] Remaining amount used on other projects.

Mr. MARSHALL. Mr. Chairman, I would like to ask Mr. Wheeler a question on this matter.

Mr. WHITTEN. Mr. Marshall.

USE OF ELECTRONIC DATA-PROCESSING MACHINES

Mr. MARSHALL. When Dr. Trelogan was discussing a matter of work that was being done with industry and laborsaving devices, it seemed to me that quite a good proportion of some of the work that is being done over in the Department is a matter of gathering statistics and evaluating them.

I wonder what the Department has done about putting into operation laborsaving devices that might save manual labor?

Mr. WHEELER. There has been a lot of consideration given to the matter of electronic data-processing machinery in AMS and in other agencies, and at the departmental level we have just about confined our efforts to getting information across agency lines, encouraging the study of it, making arrangements for representatives of different agencies of the Department to have the benefit of discussions, talks, demonstrations, and so on, that are given in this area. I think perhaps the folks here in AMS can give you some information on the consideration that is being given in that agency.

Mr. MARSHALL. Well, I would be glad to have this, too, but, since the work is something that covers various phases of the Department, could you give us any estimate as to the amount of man-hours, departmentwise, that have been saved because of the use of some of the new electronic machinery?

Mr. WHEELER. I am not prepared to at the moment. I would be glad to furnish a statement on that subject.

I know that in the case of Commodity Credit Corporation there have already been marked savings in the commodity offices; and, more significant, there is in various stages of planning the installation of some of this electronic data-processing equipment that will increase efficiency in a very startling way. I heard some figures the other day where the relative output per man-year would be 40 to 1 under the new system compared to the old.

There is terrific potential in this, and we are exploring it. It takes time; a great deal of planning has to go into any installation of electronic data-processing equipment.

Mr. MARSHALL. I recognize that it would be approximate, but could you at this time tell us what had been the man-hour savings in the past year with the use of those devices and what you would anticipate next year?

Mr. WHEELER. We will be glad to make a stab at it. It will have to be approximate.

(The information requested is as follows:)

USE OF ELECTRONIC DATA-PROCESSING EQUIPMENT IN THE UNITED STATES DEPARTMENT OF AGRICULTURE

The productive application of modern office equipment to program and management activities is an integral part of the Department's continuing management improvement program. Conventional types of office machines are used widely in the Department and add significantly to the economy, efficiency, and effectiveness of operations, some of which involve the routine processing of large amounts of data.

In recent years, noteworthy progress has been made in the development of electronic machines for application to data-processing activities. These tools, because of their capacity to manipulate large amounts of information accurately with great rapidity, constitute a major advancement over conventional punchcard systems. They permit lengthy and complex data processing operations to be performed in a continuous machine process, without human intervention. With proper planning, many routing clerical, fiscal, and recordkeeping jobs and a variety of research and analytical tasks can be performed by these machines. They provide opportunities for increasing the efficiency and effectiveness of work now done and for undertaking other worthwhile projects that were uneconomical or impossible with conventional data-processing equipment.

Mindful of these developments, the Department has encouraged its constituent agencies to explore thoroughly the uses to which electronic data-processing equipment might be put in their administrative and program activities. However, because of the equipment's cost, complexity, and fundamental importance, emphasis has been placed on careful planning and cautious action in implementing any proposal for its use. To the full extent possible, all potential applications are evaluated in the light of the full range of departmental and agency activities, needs, and resources.

Through the Office of Budget and Finance, stimulation and guidance in this field have been given to the Department's agencies. This Office has encouraged agency personnel to become familiar with the characteristics of various types of electronic data-processing equipment and arranged for their attendance at discussions, talks, and demonstrations on the equipment. Information about significant electronic machine applications in industry and other Federal departments and establishments has been disseminated throughout the Department. Meetings of Department officials responsible for electronic data-processing developments

have been arranged to facilitate the exchange of information and the development of cooperative activities among the Department's agencies. In addition, personnel from this Office have consulted regularly with representatives of firms manufacturing electronic data processing machines and with agency officials on problems and developments in this field.

The Commodity Stabilization Service is the only Department agency that has installed electronic data-processing equipment. A high-speed, medium-sized computer has been in operation in their Chicago Commodity Office since July 1956, where it is used to prepare invoices for warehousing charges and settlement statements for warehousemen following delivery of grain. Several other accounting operations are also being studied and programed for processing on this machine. The annual rental for the equipment is approximately $49,000.

CSS has also placed orders for two computers to be installed in their Kansas City and New Orleans Commodity Offices late in 1957 or early in 1958. Annual rental rates are expected to be approximately $136,700 in Kansas City and $664,200 in New Orleans. In addition, studies are being made in CSS offices at Dallas, Minneapolis, Cincinnati, and Portland, to determine the feasibility of using electronic data-processing machines in their operations.

Actual savings of man-hours resulting from the Chicago installation are difficult to assess, because of the short time that it has been in operation. A great deal of effort must be put into planning and programing for the use of the machines and during their first months of operation problems arise requiring special attention. However, the experience of the Chicago office thus far is indicative of the benefits to be expected. Recruitment has been stopped, except in scarce technical categories. The electronic equipment has permitted the office to keep abreast of increasing workloads and to overcome backlogs. Speed and accuracy have markedly increased in meeting deadlines for processing orders and paying bills. Thus, the efficiency of operations is being increased and more effective service rendered to the public.

Some of the Department's agencies contract for electronic data-processing services or for research involving the application of electronic equipment. For example, the Soil Conservation Service contracts for a limited amount of machine time to process technical engineering data on water surface profiles. The Rural Electrification Administration has used time and electronic equipment in processing data on the performance standards of their borrowers. In the Agricultural Marketing Service, electronic computers have been used in a survey done in cooperation with the Bureau of the Census on farm operator expenditures and in the consumption survey carried out under contract by a private research firm.

Mr. WELLS. I would like to say a few words, Mr. Chairman. We have a project in the Agricultural Marketing Service, Mr. Marshall, where we are studying the possibility of electronic processing of data. We are also doing some of it.

I sent you yesterday morning a copy of the recently released food consumption survey. Those tabulations and the way they are set up would have been almost impossible without the use of electronic machines, and yet they were run at considerable less cost than had we run a more stripped-down version with hand clerks.

In other words, it is a type of tabulating job that you cannot do with hand clerks that is represented in the food consumption survey which you received.

Now, let me say this about the electronic machinery. The possible savings in it are very great indeed if you can work out what I think the technicians call programing problems. Let me illustrate. You can say, for example, the electronic calculator will, in a day, do the work that would take 100 or 200 clerks a week to do. But before you throw the switch you have got to give your electronic calculator all the instructions that you give the 100 or 200 clerks all the time they are working.

I do not know whether I make myself clear or not.

Mr. MARSHALL. What you have to do, you have to have the basic information in that machine somewhere, but when you get that basic information in the machine, does it need renewing at all times?

Mr. WELLS. Now, wait a minute. You must feed the basic information in, including each pertinent item of new information.

You must also feed into the machine, Mr. Marshall, the instructions as to how to handle the basic information. Electronic equipment can do wonders where you have a repetitive type of job, where you set up the instructions once, for example, in the Commodity Credit offices where the load of loans and the way you handle them is the same and the way you feed in different data and instructions are the same. But where you have to set up different programing procedures and set up tabulating instructions for each particular job, the saving evaporates in quite a rapid fashion.

So what you must have is, 1, a considerable amount of data to handle; 2, a great deal of repetition so that you do this thing over and over again, once you work out how to do it.

Mr. Newell and I have had a demonstration from a business machine company using our information. We collect several hundred prices paid by farmers for different items for each of the 41 State offices, and by feeding the data into the machine on tapes or cards, we got out within a matter of minutes the printed pages which you get in the monthly Farm Price Report, for example.

This involves quite a number of clerks, but before we move in we have got to have enough work to keep the machine busy most of the time. We have to make up our mind 12 to 18 months in advance because these companies are moving their machines as fast as they build them. We have got to put a very considerable investment in the machines, either in terms of rental of or actual purchase.

Mr. MARSHALL. Do you rent these machines or do you purchase them?

Mr. WELLS. So far, Mr. Marshall, what we have been doing is really contracting for tabulating, or otherwise renting the machine services for particularly large jobs. Some of these machines, like those in the Bureau of Census or in some large commercial companies, we can rent. The costs are relatively the same whether we buy or rent.

My point is if you are going to install the machine in the Department, you have got to have the room, and the volume of work, as well as the necessary statistical or technical personnel. You have got to plan on considerable capital investment or substantial rental contract. You have got to go into what could be a wasteful operation unless it were well planned and tested in advance.

We have got quite a bit of information on the IBM card machines. Our question now is can we move into the use of the new type electronic machines; can we calculate a big enough workload to keep a sizable machine busy enough of the time to make it pay? Then when we get it, the question is do we rent it or buy it at a cost of several hundred thousand dollars.

So it is a considerable decision to make a shift.

Dr. HERRMANN. I might say, Mr. Marshall, the problems that we are going to face in that area is getting technicians who can operate this equipment. They are very difficult to come by at the present time, and the salaries that they receive are rather fabulous in terms of ordinary Government salaries. We are now in the process of doing some training work in order to develop personnel that can handle this type of equipment.

I might also comment further, Mr. Wells, with respect to the example you just mentioned about the handling of statistical information that Mr. Newell furnished. The figures went something like this. I believe it took 28 man-days to get that material together by ordinary hand methods and get it into a form that could be duplicated. With the other type of equipment it took 19 hours to get the material in shape to put into the machine; it took 25 minutes to put it through the machine, and when it was through the machine the stencil was ready to be duplicated.

So it was 28 days compared with a combination of 19 hours and 25 minutes. You see, I think, that it demonstrates what can be done with respect to the use of this type of equipment if you have capable personnel and have a full-time job for the machine.

Mr. ANDERSEN. Mr. Herrmann, does the Government have the facilities to pay men sufficient to engage them as operators of such machines?

Dr. HERRMANN. I do not know. We have not hired any of this particular type of personnel. But I do know this, that we have great difficulty in hiring and holding statisticians, particularly mathematical statisticians, because they can get salaries far above what the Government can pay.

Mr. ANDERSEN. You are almost forced, then, to lease these machines, rather than to purchase them, are you not; that is, contract for a certain operation by these machines?

Dr. HERRMANN. At the present time we do our work largely through contracts, Mr. Andersen.

Mr. WELLS. In considerable part, Mr. Andersen, what Dr. Herrmann is talking about is the statistician who calculates how to get the material into the machine, rather than physically operating the machine. You are talking about the statistician who has theoretical training. More especially how to get the data so translated that the machine will handle it.

Mr. MARSHALL. How many contracted machines do you have over in the Department at the present time, Mr. Wheeler?

Mr. WHEELER. I am sorry. I would have to put that in the record, Mr. Marshall.

Mr. MARSHALL. Could you put in, along with that, the contract rate that you pay?

Mr. WHEELER. Yes, sir. We can do that.

(The information requested is as follows:)

Electronic data processing machines leased or planned for lease by the U. S. Department of Agriculture, as of Feb. 1, 1957

USDA agency	Office	Installation date	Annual rental cost
Commodity Stabilization Service.	Chicago commodity office	July 1956	$48,900
Do	Kansas City commodity office.	September 1957	136,680
Do	New Orleans commodity office.	Late in 1957 or early in 1958	664,200

Electronic data processing services performed under contract for the U. S. Department of Agriculture, as of December 31, 1956

USDA Agency	Service performed by—	Cost	Purpose
Agricultural Research Service.	Sperry-Rand Corp.	[1] [2] $2,800	Determination of optimum farm organization for 36 farm situations in the North Platte River Valley, Nebr., to increase farm income, reduce high dependence on cash crops, and reduce wind erosion.
Agricultural Research Service and Agricultural Marketing Service.	National Analysts, Inc.	[2] 182,074	Analysis of food consumption and other aspects of household economics. Study of food distribution by family income levels to determine the possibilities of conducting special distribution programs, the organization and structure of the markets for agricultural products, statistics on per capita consumption. The use of electronic processing makes the data available in time to give a current picture of markets as a basis for decision-making.
Agricultural Marketing Service.	Bureau of the Census.	[3] 36,000	Farm expenditure survey, in cooperation with the census of agriculture.
Rural Electrification Administration.	International Business Machines Corp.	[1] 150	Analysis of data related to the development of performance standards for REA borrowers.
Soil Conservation Service.	Sperry-Rand Corp.	[4] 4,000	Processing of technical engineering data necessary in program planning and execution.

[1] Maximum cost. Charges are based on work actually performed.
[2] This amount includes the total cost of the research, a part of which is applied to the electronic processing of data. However, this portion is not separable from the total.
[3] This amount includes reimbursements made to the Bureau of the Census for special computations, up to Dec. 31, 1956.
[4] This amount includes the initial cost for programing ($2,700), together with an estimated cost for work to be performed during the balance of fiscal year 1957.

Crop and Livestock Estimates

Mr. Whitten. We come now to the next section, "Crop and livestock estimates," where Mr. Newell will make the presentation.

Mr. Newell, you called the committee's attention to the survey that you have been conducting in connection with trying to strengthen the system at arriving at your estimates. You might discuss that, I believe, first.

I think it might be well to put in the record at this point the information which you supplied to us on this matter. Then you might add to it in such way as you wish to, orally.

And in that connection, I will also include, just preceding the information, the letter which I addressed as chairman of this subcommittee to the Secretary on July 31, 1956, calling attention to this problem.

(The material is as follows:)

JULY 31, 1956.

Hon. EZRA TAFT BENSON
Secretary of Agriculture, Washington, D. C.

DEAR MR. SECRETARY: A group representing the American Farm Economic Association and the National Association of Commissioners, Secretaries, & Directors of Agriculture recently brought to the attention of the members of the Subcommittee on Agricultural Appropriations a report on the program of the Agricultural Estimates Division of the Agricultural Marketing Service. The report reviewed current services and included a number of specific recommendations for the further development of the service provided by that division. It points out the use farmers make of the reports in arriving at decisions on problems of production and of marketing the products of the farms. Emphasis was placed on the need for more detailed and more accurate information as a basis for many policy decisions at the State or local levels, as well as on the need for more detailed and more accurate information at the national level.

The subcommittee has been interested in the crop and livestock estimating work of the Department for some time. From our observations over a period of years, we know that the reports of the Crop Reporting Board are basic to many activities and programs of the Department. We realize that in the development of research work on production and marketing, accurate information on production and prices, and trends in the pattern of farm production are necessary. We also are aware of the need for adequate basic facts on agriculture in the determination of national agricultural policy and the administration of the action programs of the Department.

For these reasons, the subcommittee would appreciate it very much if you would have a careful appraisal made of the report by the agricultural data committee of the American Farm Economic Association and a report submitted to this committee for discussion at our hearings next spring. We would like to know what steps the Department would recommend to offset the shortcomings of the service as reflected in the farm economic report. Also during the past 3 years, funds have been made available to the Agricultural Estimates Division for research into new and improved methods of crop and livestock reporting. We should like to have a report on the accomplishments of this work to date with such recommendations as may be appropriate for adapting the findings to the regular operating program. In brief, we would like to have a report that would cover the USDA's recommendations for the immediate and long-range program for the development and improvement of the agricultural estimating work of the Department.

Sincerely,

JAMIE L. WHITTEN,
Chairman, Subcommittee on Agricultural Appropriations.

United States Department of Agriculture, Agricultural Marketing Service, Washington, D. C., February 1957

A PROGRAM FOR THE DEVELOPMENT OF THE AGRICULTURAL ESTIMATING SERVICE

A PRELIMINARY REPORT

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I. Discussion of Problem

A. INTRODUCTION

The Agricultural Estimates Division is responsible for the current collection, compilation, and analysis of a large volume of basic facts depicting in statistical form the current status of American agriculture. The information issued on a weekly, monthly, quarterly, or annual basis provides the basic facts needed by growers, dealers, handlers, processors, and all who may be concerned with any phase of the food and fiber industries in planning and carrying out programs for orderly production, processing, and distribution of farm products. The statistics are universally used and, in fact, are necessary for the establishment of agricultural policy at the local, State, and national levels. The historical series, many of which reach back for nearly a century, constitute the only continuous and comparable record of the progress of agriculture in the Nation. These forecasts and estimates of the Agricultural Estimates Division and its Crop Reporting Board will continue to provide the official records that will be cited and used to depict the relative position of agriculture in the national economy, and to measure the changes in the agricultural pattern and practices and the accomplishments of research in production and marketing.

Statistics that a generation ago were considered of serviceable accuracy on a geographical and subject-matter basis are no longer sufficient. This has been repeatedly demonstrated since the 1930's when the Department found that available statistics were not adequate for carrying out its responsibilities in administration of the acreage allotment and marketing quotas and the Federal crop-insurance programs. The inadequacies were accentuated more recently with the passage of the Research and Marketing Act of 1946, the program for farm and home planning under the direction of the Extension Service, and the most recent legislation providing for the soil bank. Accompanying these developments has been a mounting and exacting demand from farm organizations, business concerns, and the general public for greater detail and accuracy in the agricultural facts provided. In every case where new agricultural programs have been inaugurated they have created a demand for additional agricultural statistics to guide future policy and aid in administration, and to measure the effectiveness or accomplishments of a particular program.

B. REPORT OF THE AGRICULTURAL DATA COMMITTEE

About 2 years ago the American Farm Economic Association recognized the need for immediate action to fulfill present-day needs for basic agricultural facts. That association, accordingly, appointed a committee which included representatives of the colleges, universities, industry, and other important users of agricultural data, to make a study of the agricultural data needs of the Nation. This agricultural data committee worked closely with a committee of the National Association of Commissioners, Secretaries, and Directors of Agriculture, and the organization and policy committees of the State experiment stations and the Agricultural Extension Service. All States joined in the study. We concur generally with their conclusions and recommendations; however, their estimate of $4½ million as the probable cost of the program would necessarily depend upon conditions as the program developed and upon the projects included beyond those suggested by their report.

In summary, the report of the agricultural data committee outlines a broad and progressive program for the development of agricultural statistics to meet the needs as found by their study. The committee recognized that the program in its entirety would involve a very considerable expansion of the services and require several years for accomplishment. The principal recommendations, however, may be summarized in the following main categories. The Agricultural Estimates Division was requested to provide—

1. More complete coverage of agricultural data at the county or other local level.
2. Greater accuracy and refinements at the State and National levels.
3. More frequent reports and speedier release of such reports.
4. Additional subject-matter coverage in sufficient detail to serve local needs.

The Division itself has recognized the limitations of many of its series and the inadequacy of its coverage for many items mentioned by the agricultural data committee. Some of the same inadequacies were pointed out by a subcommittee

of the House Agricultural Committee in its 1952 investigation of techniques and procedures used by the Agricultural Estimates Division. The committee made very clear its concern over the fact that the Agricultural Estimates Division of the Department was not keeping abreast of the increasing demands for more comprehensive and reliable agricultural statistics.

C. RESULTS OF RESEARCH PROGRAM

In 1953 the Congress appropriated funds for experimental work, the object of which was to seek out new methods for improving the estimating and forecasting work of the Crop Reporting Board. Certain basic requirements were established by the Division in setting up the program.

1. The methods developed must be adapted to meeting the exacting time schedule necessary for providing a current reporting service to farmers.
2. The methods used must be adaptable to producing estimates at the State level as required by law.
3. The cost of operating the program should be as reasonable as possible commensurate with the degree of accuracy and the amount of detail required to adequately serve agriculture.

The first and probably the most difficult problem faced by the Agricultural Estimates Division is securing a truly representative sample upon which to base the estimates. Returns from voluntary correspondents to the mail questionnaires have been and are at present the principal source of information upon which the estimates are based. Much dependence will have to be placed upon this source in the future, but the objectives and accuracy now being specified for many programs require the use of newer and improved sampling techniques that will correct or avoid the deficiencies of the present system.

A second major problem is the fact that the forecasts of crop production during the season are based very largely on the subjective appraisal of voluntary farmer crop correspondents. While the methods developed by the Crop Reporting Board for appraising the returns have been reasonably satisfactory, the demands for greater accuracy require the development of systematic ways of following the progress of the crops during the growing season by objective measurements of plant development. Particularly in seasons when crop prospects are subject to unusual or extreme weather conditions, such measurements should be helpful in predicting the probable production. Firsthand knowledge of the response of important yield characteristics permits a more objective means for evaluating and improving yield forecasts.

Recognizing these basic difficulties, the Division started on a series of experimental surveys in the 10 Southern States during the spring of 1954. An enumerative survey was made in June of a representative sample of some 700 agricultural areas, covering approximately 3,000 farms, in 100 counties of the 10-State area. Part-time enumerators obtained from the individual farmer a record of the crops planted, the numbers of livestock, and other factors relating to his own farm. This survey was repeated in June 1955 and again in 1956 when 13 additional States, mostly in the north-central area, were added.

To develop a basis for forecasting during the growing season, a sample of the farms covered in the June survey was selected and fields designated for objective yield determinations to be made later in the season. During 1954, 1955, and 1956, actual measurements of crops were made in these fields and the final estimates of production were obtained on those individual fields at the end of the season. The measurements during the season were then related to the final production. From this work some experimental formulas were developed that could be used during the growing season for forecasting probable outturn. The crops covered during the experimental period were corn, cotton, wheat, and soybeans.

While the experimental work on many of the problems is not complete and additional problems await study, the conclusions to date can be summarized in brief as follows:

1. The experimental program of enumeration of a representative sample of agricultural areas has demonstrated that this method is practical and can be adapted to meet the needs for operations.
2. The enumerative method can be integrated with the mail-questionnaire technique and will mitigate the principle weaknesses inherent in the voluntary mail-survey method.
3. The enumeration of a large sample of agricultural areas (15,000 segments of between 60,000 and 75,000 farms) will provide current estimates of the major crop acreages and of livestock items by States, regions, and for the United States.

4. The enumeration of a sample of the size visualized here would not provide reliable independent estimates of the minor or specialty crops nor of major crops or livestock numbers at the county level.

5. A sample of this size would provide reliable estimates of the change in numbers of farms, farms keeping livestock, and other types of farms. Such measures are not possible with the present methods. Current data on farm numbers constitutes one of the major deficiencies in the present service and one of the weaknesses in the present estimating methods as related to livestock and poultry numbers.

6. The collection of objective measures of plant development during the crop season on a large number of sample fields can be completed in time to be used in current monthly forecasts prior to harvest. This approach to crop forecasting is basically sound and practical once the fruit is formed. In addition, as our knowledge of crop and yield characteristics is increased, so it may be expected that additional refinements or improvements will result in the future.

7. These techniques can be extended to additional crops, but considerably more study is necessary to determine the significant measurable factors and to build up a series that can be utilized for forecasting purposes.

D. REPORT OF AGRICULTURAL ESTIMATES WORKING GROUP

A divisional working group, consisting of well-trained statisticians from the Washington office and the field, analyzed the research program and evaluated it in relationship to the overall program of the Division. The group's report recommended a procedure for integrating the newer techniques into the regular operational program of the Division. This task group recommended that the enumerative procedure be adopted as rapidly as the research results justify. It also recommended that additional emphasis be placed on monthly measurements of crop development in a representative sample of fields to be used as a basis for improving the crop forecasts during the season.

E. PROPOSED PROGRAM

1. Objective of this program

The ultimate objective of this program is to modernize the present agricultural reporting service to meet the needs of modern agriculture, and to establish a basic organization that can be readily adapted to future needs. Agriculture is a basic industry affecting the welfare of every individual and, therefore, the economy of the entire Nation. Modern industry is dependent upon reliable basic statistics for efficient operations.

2. Policy with regard to Federal and State responsibility for county data

In considering the report and recommendations of the agricultural data committee, which places major emphasis on the development of statistics at the county level, it seems desirable first to establish a definite policy with respect to the Department's position in developing such data. The following general policy is therefore recommended:

(*a*) *Federal responsibility.*—(1) The basic law under which the agricultural estimating service of the Department is conducted requires that estimates be prepared and published, by States, to provide a national report. It is therefore a definite responsibility of the Federal Government to assume the costs necessary for that purpose.

(2) In all cases where the conduct of a national program requires the collection of data and preparation of official estimates by counties, or other local areas, the costs of providing such data should be borne by the Federal Government.

(*b*) *State responsibility.*—Where the county or local area estimates, or additional State data, are solely or predominantly designed to be of benefit in serving the needs within a State, the State will bear the expense of such project. In the conduct of such State projects where the Federal and State estimating and reporting programs are joined together in a cooperative service, the Federal statistician in charge will participate to the extent of providing overall direction and coordination of the integrated program, wherein the statistics collected under the Federal program will be available for such further analyses as will implement the State program. The Agricultural Marketing Service stands ready to enter into a cooperative agreement with any appropriate State agency to provide statistics on commodities of local interest on a State basis. In those cases where individual States have need for detailed basic statistics on any commodity not included in the

national program and that is primarily of interest to the State, they may present a project to the Department for consideration under the provisions of the Research and Marketing Act. If the project is approved and funds are available, the Department will match on a 50–50 basis the funds necessary for carrying on the project on a continuing basis.

3. Steps for Development of Program

The development of the immediate and longtime program is visualized in four principal steps. In outlining these steps we have taken into consideration the findings and recommendations of the agricultural data committee of the American Farm Economic Association, the requests and recommendations made by the advisory committees of the Department, the requests made by the other agencies of Government, including Congress, and the analysis by the members of the staff of the Agricultural Estimates Division.

The first and the major step is in the nature of a capital outlay to bring the staff of the Division up to a level necessary to carry out a major addition to the program. This would cover the first two recommendations made by the agricultural data committee for more local data and increased precision in State and National estimates. It would also correct many of the criticisms and effectuate many of the suggestions made by the subcommittee of the House Agriculture Committee in its 1952 investigation of the Service. This step is outlined in more detail in the next section under the heading "Project A: Structure for Providing Improved County, State, and National Data."

The second step would provide for the strengthening and improving of the program of prices paid and prices received. The structure for carrying out this step would be integrated with the staff developed for the first step. It could, in fact, be considered as a part of the first step in that the proposed district enumerators would also carry a considerable part of the responsibility for operations of the acreage and livestock surveys. There are some gaps in the price data presently available, and there is great need for improving the sampling base and therefore the precision of the data provided. This step is outlined as Project B: Expanded Agricultural Price Statistics.

The third step, outlined as Project C: Speedier Release and Distribution of Reports, logically follows the first two steps in that the speedier release of information and providing interim surveys would involve more personnel for operations. The facilities for carrying out the field surveys would be necessary to provide the interim reports. The faster release of the data implies more analysis of the data in the States. If projects A and B are implemented first, the principal additional items of expense for project C would be a system of communications and possibly the expense of electronic computing facilities.

The fourth step—Project D: Additional Data and Services Needed, provides for coordinating the efforts to obtain these additional data with the facilities developed under projects A, B, and C. The exact methods and procedures for meeting these detailed needs can be developed more economically as the preceding projects are implemented. In the development of the overall program it is particularly important that projects A and B be firmly established.

Section II, following, outlines in more detail the individual projects.

II. Proposed Major Projects

Project A. Structure for Providing Additional and Improved County, State, and National Data

Object

To provide—

(*a*) Additional and improved estimates of acreage, yield, and production of major crops and livestock numbers by species at the county, State, and National levels that are necessary for the determination of local and national agricultural policy and to meet the needs for local data in the administration of national programs.

(*b*) Estimates of total cropland, changes in numbers of farms and farms keeping livestock, and farm employment, by States.

(*c*) A basic organization for carrying out future steps in the long-range development of agricultural estimates by strengthening the system of voluntary reporting and providing the necessary facilities for obtaining annual interview surveys at the State and National levels, and to conduct special surveys as required from time to time for special studies or investigations provided for in other agencies of the Department.

Need for the service

The studies of the Agricultural Data Committee have indicated a widespread need for more detailed basic statistics at the State and local levels by research workers and extension specialists in carrying out their responsibilities under the program of local farm planning and program projection at the local level. This is a national program implemented by special authorization and appropriations from Congress 2 years ago. In practically every State where this work has been undertaken the State statistician's office has been called upon to provide detailed basic facts necessary to carry out the program. In only a few cases has the statistician been able to provide the data requested. Various industries that are concerned with serving farmers, local banks, and farmers' cooperatives have expressed a need for statistics at the local level. The Department of Agriculture, in carrying out its responsibilities under the acreage allotment program has an increasing need for more accurate State and county statistics in arriving at proper county acreage allotments. The soil-bank program has widened the need for county acreage and yield estimates as well as estimates of total cropland, acreage of forage crops, and changes in the number of farms. There is also a widespread need for reliable information on farm practices, the extent of mechanization, the use of fertilizer, and related data. The Agricultural Estimates Division, in carrying out its responsibility, is in need of facilities for more accurate determination of some of the basic trends, as, for example, the change in the total number of farms and farms keeping livestock. Also needed are data to provide additional and improved statistics at county, State, and National levels concerning livestock numbers by kind, age groups, etc. The present organization is entirely inadequate to meet these requirements.

Forecasts of production during the growing season are important factors affecting the market for agricultural products. These projections are also used in determining policy and may affect the level of support prices for the market year. For these reasons it is of great importance that these forecasts be based upon the best and most comprehensive information it is possible to obtain at the time forecasts are made. It is, of course, recognized that it is not possible in the foreseeable future to predict with any degree of certainty the long-range effect of weather and other natural phenomena, but it has been shown by research in the Agricultural Estimates Division that certain physical factors that are measurable during the growth of the plant are indicative of the potential production. Such measurements taken at regular intervals furnish a means of determining the basic factors affecting production and thereby establishing the basis for improving the forecasts when employed on a broad scale.

Method of procedure

For its raw data the Division is dependent almost entirely upon the voluntary cooperation of farmers and other reporters who submit their questionnaires by mail. This is an economical method and one that has worked quite well over a period of years, but like all methods, it has some limitations. It is anticipated that this procedure would be strengthened by more intensive work on the reporting lists and supplemented with some new procedures and methods that have proven their dependability in other statistical agencies and by the research that has been carried on by the Division of Agricultural Estimates since 1954.

A sample covering some sixty to seventy-five thousand farms, scientifically distributed to be representative of the 48 States, would be established to strengthen the basis for State and National estimates. This sample would be enumerated completely each spring to obtain acreage of crops planted and livestock numbers, and partially enumerated in the fall to obtain fall acreage harvested, yields, and end-of-the-year livestock inventories. The large-scale mail inquiries presently carried on would be improved and continued as an integrated part of the enumerative surveys to add strength to the total information which would be necessary in order to arrive at more reliable estimates of crops and livestock by counties.

A series of objective crop measurements on a large sample of fields drawn to be representative of the crop in question would be carried on during the growing season and checked against final production at harvest time. These measurements would become the basis for the development of more objective forecasting formulae used in the program providing current information on production prospects.

The personnel of the Division, both technical and clerical, would need to be expanded substantially in each of the 42 field offices of the Division. Supervisory personnel would be added at the national headquarters to give overall direction and technical assistance to the field operating staff. The added personnel would be used to develop the basis for and prepare the needed county statistics covering

the major crop and livestock items. This strengthening of the basic staff would place the Division in position to implement subsequent phases of the long-time plan for the development of the services of the Agricultural Estimates Division.

PROJECT B. EXPANDED AGRICULTURAL PRICE STATISTICS

Object

To strengthen agricultural price statistics—

(*a*) By initiating a thoroughly modernized method of collecting data on prices received and prices paid by farmers to supplement and, to some extent, replace the existing system, which is based largely upon the use of a mailed questionnaire.

(*b*) By expanding coverage to include prices for important commodities for which price data are not available or for which existing data are inadequate.

(*c*) By providing more timely data by eliminating delays in the present operation.

Need for the service

The need for adequate and reliable statistics on agricultural prices is obvious since these prices provide the basic data for computing parity prices, the official indexes of prices received and prices paid by farmers, for evaluating farm production, for computing gross and net farm income, and for many other purposes. The present program represents about the best balance and the maximum overall coverage that can be attained with available resources, and the data provided by this program have provided important guides to policy and programs over the years. Nevertheless, there are several fairly serious deficiencies in the program, namely:

(*a*) The lack of general application of the modern statistical techniques of probability sampling and enumerative data collection in the field of price statistics.

(*b*) Delay in processing quarterly prices paid data.

(*c*) Serious gaps in the commodity and service fields for which price data are available.

(*d*) Weak spots respecting data for particular commodities.

The uses made of the data on prices received and prices paid by farmers affect so many important programs and policies that the improved techniques of probability sampling and enumerative data collection should be adopted to supplement, and in some cases to displace, the present system.

Present operations preclude the current use in the computation of the Parity Index of data collected quarterly from over half the States in the months of March, June, September, and December. Such data cannot be utilized until a month later, owing to limited data processing facilities. This delay should be eliminated by expanding the facilities for processing the available data. Several important groups of commodities are not covered by the current data collecting program. Forest products, which are a substantial source of income to farmers, should be brought into the data collection program. Prices paid for medical, dental, and hospital services, for repair and maintenance of heavy farm machinery, custom rates for combining, hay baling, corn picking, and prices paid for veterinary, recreational, and personal services are not covered by current price series, but comprise sizable expenditures and should be included in the program as soon as possible.

Information concerning farm construction and the quantities of various kinds of materials used therein is very limited and should be supplemented by additional basic data. Prices paid at mail-order houses are clearly sufficiently important to be covered by the price series.

Generally speaking, neither the data for prices paid nor for prices received are adequate for meeting the many demands for data applicable to areas smaller than a State. Here again is a need for far greater intensity in the program.

Method of procedure

The proposed plan contemplates the employment of a corps of price enumerators in each State, usually 1 enumerator to each price reporting district (there are generally 9 districts per State). These enumerators, operating under the guidance of the State statistician, would make periodic contacts with dealers and merchants selected under a scientific sampling scheme to ascertain prices received by farmers and prices paid by farmers for the various commodities, and would base their reports to the fullest extent practicable upon documents of sale. Once the new program is in operation, the mechanism would be available to remedy the existing gaps in data and coverage consistent with available facilities.

PROJECT C—SPEEDIER RELEASE AND DISTRIBUTION OF REPORTS

Object

(*a*) To speed up transmission of data from the State offices to Washington, data processing in Washington, and distribution of reports to farmers and the general public.

(*b*) To provide more frequent reports during critical periods on situations brought about by drought, floods, freezes, and the like.

Needs for the service

Farmers submit their crop reports to the State agricultural statistician as of the first of the month and these form the basis for the Government's crop report released in Washington on the 10th of the month. Thus, there is at least a 10-day lag between the time the farmers make their report and the release of the Government crop report in Washington. This time is now required for tabulation, analysis, and preparation of the reports, and transmittal time through the mails from crop reporters to State offices, and between State offices and Washington. Frequently conditions change drastically during this 10-day period because of freezes and other severe climatic changes and the Government reports under present operating procedures cannot reflect these changes.

There is also a persistent demand of long standing that the Department release crop reports so that the first of the month estimates are in the hands of users in less than 10 days' time. The complaint is that in our modern world important decisions cannot be postponed as long as 10 days while the reports are being processed.

Method of procedure

It is proposed that certain data be transmitted to Washington from the State offices by telegraph in secret code. This could be done before the analysis of the data is completed in the State offices. Data processing in the Washington office might be expedited by modern electronic computing devices. Tests of such equipment indicate that considerable time might be saved by the use of these machines. As further tests are still being made, no recommendation is made now for the purchase of such equipment. But experience to date indicates that a great deal of attention must be given to mechanization in the near future.

Although the Washington and State offices issue a tremendous volume of information, prompt distribution is impeded by time required to prepare, reproduce, and mail the releases.

One difficulty is the delay in getting reports mailed to the public. This frequently takes as much as 10 days. Nearby field offices receive mailed material promptly, but delays of 2 days (more when release is made late in the week) are common for more distant offices. Reduction in transmittal time to distant State offices can be accomplished only through telegraphic means. Statistical data would be telegraphed following official release in Washington.

Delays in release of information after it is received in State offices can, in most cases, be overcome only by an increase in facilities and personnel. For example, the time involved in preparing copy for reproduction in field offices could be reduced through the use of typewriters that copy from teletype tape.

Facilities made available to speed up communications between Washington and the State offices would be important in emergency situations calling for more frequent reports than those regularly scheduled. In addition, the operational machinery proposed under project A could be employed for on-the-spot surveys. Such surveys, combined with facilities for rapid communications, would enable the State statistician to appraise special situations as they arise and permit reports to be transmitted to Washington and released to the public with a minimum of delay.

PROJECT D. ADDITIONAL DATA AND SERVICES NEEDED

Object

To provide additional data needed at county, State, and national levels for a wide range of subject matter not now provided or provided with insufficient detail, accuracy, or timeliness.

Needs for the service

There is an ever-increasing demand from business groups, farm organizations, colleges, governmental agencies, and the general public for factual information on more items and in greater geographical and subject-matter detail. The stresses and strains of our modern complex economy require reliable data of a type not formerly considered essential. These demands occur in all aspects of the work of

Agricultural Estimates Division. For example, in respect to fruits and vegetables, requests for greater scope include estimates of production by counties and smaller areas, utilization of production, estimates for small fruits and minor vegetables and most of all, a count of bearing tree numbers. The latter was given top priority by the industry advisory group. For livestock and poultry additional details by kinds, weight classes, age groups, etc., are persistently requested. Special emphasis is placed on the need for data on weekly placements of nonbroiler chicks, quarterly or monthly data on sow farrowings, and cattle on feed in all States and for breeds of livestock. A multitude of detailed statistics are requested for a wide range of field crops, including seeds by varieties, stocks on and off farms, quality and utilization of production, storage facilities, and irrigated and nonirrigated acreages. The list of additional dairy products for which there is a pressing need is a long one. It includes such items as monthly estimates of production of evaporated whole milk, nonfat milk solids, per capita consumption, and an index of current month-to-month changes in sales of fluid milk products. There are numerous additional items for which repeated requests are made, such as number of farms, and number of farms producing specific crops or livestock, farm employment, by States, commodities held in cold storage for 30 days or more, and so on.

Method of procedure

It is proposed to undertake additional work as the basic organization is developed under projects A, B, and C. The additional personnel provided under these projects will, after the new basic procedures are established, permit readjustment of the entire program, and furthermore, some additional programs would be possible without expanded facilities. On the other hand, many of the additional services would require added facilities as, for example, the periodic inventories of fruit tree numbers, monthly employment on farms by States, varietal breakdowns on seed crops, and similar specialty crops. With the expanded organization it is believed that such surveys can be carried on much more efficiently than would be possible at the present time. To undertake any of these services without the basic organizations anticipated for carrying the first project would be much more costly than would be the case otherwise.

III. Summary and Recommendations

A. SUMMARY

It appears evident—

1. That the demands of farmers, farm organizations, colleges, State and Federal Government agencies, business concerns, and the general public for more factual information on more subjects in greater detail and with improved accuracy represent a real need. That the dynamic complexities of our present-day production and marketing problems require data of a quality and diversity not previously considered necessary. That statistics which long were considered serviceably accurate and adequate no longer suffice.

2. That the present staff, facilities, and procedures of the Agricultural Estimates Division are not adequate for current purposes and must be modernized if they are to meet the demands of the present and the needs of the future.

3. That a skillful blending of mail and interview surveys as outlined herein is necessary to obtain the twin goals of greater coverage and improved accuracy at the county, State, and national levels. That the research work of the past 3 years indicates the soundness of the procedures recommended for improving the agricultural estimating service.

B. RECOMMENDATIONS

In view of the above considerations, it is recommended that steps be taken as promptly as possible to implement the proposed program of expansion and improvement of basic statistical work of the Division of Agricultural Estimates.

LONG-RANGE DEVELOPMENT OF THE AGRICULTURAL ESTIMATING SERVICES

Mr. NEWELL. Mr. Chairman, do you want to take up this program for the development of the Agricultural Estimating Service first?

Mr. WHITTEN. Yes; I believe it would be better.

Mr. NEWELL. Well, I would like to lead off with just a few comments of a general nature, Mr. Chairman.

I would like to say that we in the Agricultural Estimates Service are responsible for providing the basic material on which so much work depends and have recognized the importance of these statistics for quite a long while. We have been among the first to feel the impact of such programs as acreage allotments, acreage adjustments, and crop insurance that started in the thirties. It was again emphasized when we went into the marketing research work which was implemented in 1946, and again with the local planning and program projection work that is conducted with the Extension Service, and, of course, the most recent program, the soil bank. All of these things have emphasized a problem which faces us in all of these programs, that of providing basic agricultural statistics by counties.

USERS OF STATISTICAL MATERIAL

Mr. WHITTEN. When we were on human nutrition, I asked that Dr. Stiebeling put into the record the number of people who used her information as a basis for their work, such as home demonstration agents and teachers of home economics and all the rest. I did that because the public, in my opinion, was very critical on occasion of research in that field. She made for the record the showing, which she properly could, that her information was the basis for thousands of full-time workers who, using her information, were busy teaching and promoting this.

I mention that here to give you the opportunity to put into the record the number of organizations, the number of people, the number of laws, and the number of other things that trace back to the figures which you produce. The letter shows how essential this is to the operation of our economy, not only agriculture but business. This also lends real weight to the necessity for your figures to be as accurate as possible, all things being considered.

I hope you will feel at liberty to put a full story in the record, showing just how much of American activity makes use of your figures as a base.

Mr. NEWELL. I would be very glad to do that, Mr. Whitten.

(The material requested is as follows:)

USERS OF DATA PROVIDED BY THE AGRICULTURAL ESTIMATING SERVICE

The Crop and Livestock Reporting Service is in its 95th year of continuous operation. The Organic Act of the Department (5 U. S. C. 511 and 5 U. S. C. 514), directs the Secretary of Agriculture to collect and diffuse among people of the United States useful information on subjects related to agriculture in the most comprehensive sense of that word, and to secure information by the collection of statistics and other appropriate means. The Crop and Livestock Reporting Service was the result primarily of many requests by producers for unbiased information that would guide them in marketing the products of their labors. In the early days the Service consisted mostly of issuing periodic reports during the season on the general condition of certain major crops and estimating final

production at the close of the crop year. Down through the years many refinements have been introduced and the scope of the program greatly expanded. At the present time the Agricultural Estimates Division, through its Crop Reporting Board, issues more than 500 reports annually. When the additional reports issued through the 41 State offices, operated cooperatively in 40 of the States, are included the reports issued in the course of a year number nearly 7,000.

The reports cover more than 150 crops and livestock items. They start with the farmers' intentions to plant reports, follow the season through with monthly forecasts of probable outturn, and end with the final report of acreage harvested, yield, and production.

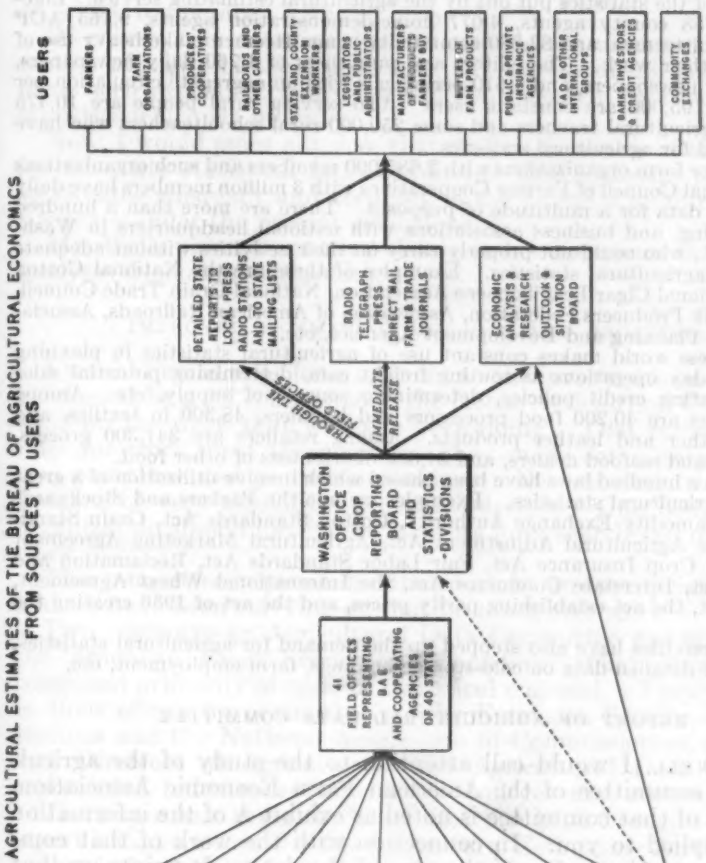
The price reporting work, a large segment of the program of the Agricultural Estimates Division, began in 1867 when the Department of Agriculture began collecting once a year data on prices received by farmers for a short list of commodities which they sold. The current program includes the monthly publication of average prices received by farmers for 63 major commodities. In addition, monthly publication, in season, of average prices received by farmers for 19 tobaccos, fruits, and commercial vegetables, and in addition, seasonal or average annual prices for 112 other commodities not priced monthly, or monthly in season, are issued. These 3 groups account for some 194 commodities.

In addition to the prices received for commodities sold by farmers, the Division collests prices for a long list of commodities which farmers buy for family living or production purposes. In the farm family living group this includes 58 items for food and tobacco; 47 of men's and women's and children's clothing; 40 auto, auto supply, and service items; 15 items commonly used for household operation; 46 items of household furnishings; and 68 building materials used in farm construction. For production purposes the list covers 43 feed items; 5 species or kinds of feeder or replacement livestock; 20 motor supply items; 52 motor vehicles (trucks, tractors, autos); 46 items of other farm machinery; 27 items of farm equipment and supplies; 62 on fertilizer and lime; 54 items of building and fencing materials used in the construction of service buildings and related structures; and 51 seeds.

Another group of important reports issued by the Service include the report on the cold-storage holdings of food products issued monthly. Information is collected on the employment of farm labor and the wages paid for labor. The latter were among the first data collected in 1862.

Agriculture is a basic industry touching the life of every individual in the Nation. It is evident, therefore, that the basic statistical facts collected and issued by the Crop and Livestock Reporting Service are of fundamental concern to the entire population. Accurate statistical facts are necessary in the formulation of national policies in many areas and are indispensable in much of our extensive research program.

The following chart presents in summary form the sources of the statistics gathered, the process through which they pass, and the principal groups of users of these reports.


AGRICULTURAL ESTIMATES OF THE BUREAU OF AGRICULTURAL ECONOMICS
FROM SOURCES TO USERS
SOURCES
USERS
FARMERS
FARM ORGANIZATIONS
PRODUCERS' COOPERATIVES
RAILROADS AND OTHER CARRIERS
STATE AND COUNTY BUSINESS BOOKERS
LEGISLATORS AND PUBLIC ADMINISTRATORS
MANUFACTURERS OF PRODUCTS FARMERS BUY
BUYERS OF FARM PRODUCTS
PUBLIC & PRIVATE INSURANCE AGENCIES
F A O & OTHER INTERNATIONAL GROUPS
BANKS, INVESTORS, & CREDIT AGENCIES
COMMODITY EXCHANGES
DETAILED STATE REPORTS TO LOCAL PRESS RADIO STATIONS AND TO STATE MAILING LISTS
RADIO TELEGRAPH PRESS DIRECT MAIL FARM & TRADE JOURNALS
ECONOMIC ANALYSIS & RESEARCH
OUTLOOK & SITUATION BOARD
THROUGH THE FIELD OFFICES
IMMEDIATE RELEASE
WASHINGTON OFFICE CROP REPORTING BOARD AND STATISTICS -DIVISIONS
41 FIELD OFFICES REPRESENTING BAE AND COOPERATING AGENCIES OF 40 STATES
800,000 FARMERS
82,000 LOCAL MERCHANTS
11,000 GINNERS
14,000 MILLS, ELEVATORS, AND WAREHOUSES
10,000 HATCHERIES
COUNTY TAX ASSESSORS IN 32 STATES
20,000 DAIRY MANUFACTURERS & MILK PLANTS
27,500 MEAT PACKERS AND SLAUGHTERERS
150,000 PERSONAL INTERVIEWS
13,000 SEED DEALERS AND SHIPPERS
CENSUS BUREAU AND OTHER FACT-COLLECTING GOVT AGENCIES

This chart shows how information flows through the Bureau's statistical organization from the sources to the people who use it. The government's official agricultural estimates are based on reports from a cross-section of farmers and people who do business with farmers. They are checked against the complete enumerations made every five years by the Bureau of the Census, and against the reports of buyers, processors and carriers of farm products, whose operations are a measure of farm production. Besides their immediate usefulness to farmers and the general public, these estimates provide basic data required for analysis of farm income, prices, costs, parity price determinations, and prospective demand and prices for farm products.

Users of agricultural statistics are many and varied and, unfortunately, no precise list of them is available. However, it is possible to give some idea of the tremendous number of users, and the diversity and importance of their needs. Of course the 4,783,000 farm operators are primary users and are dependent upon the reports on crops, livestock, prices, etc., for guidance in planning production and marketing their crops. Other important users include some 3,000 economists in the United States, about half of whom are in private industry and are, of course, prime users of the statistics put out by the agricultural estimating service. Likewise the 6,758 county agents, 4,077 home-demonstration agents, 9,165 ACP county committeemen, and 82,880 community committeemen make heavy use of our data in their work. The editors and publishers of 1,760 daily newspapers, 7,705 weekly newspapers, and 4,610 periodicals with an aggregate circulation per issue of 504,195,000 are constant users. Also serving rural people are 10,475 vocational agricultural teachers and some 250,000 rural schoolteachers who have frequent need for agricultural statistics.

The 3 major farm organizations with 2,685,000 members and such organizations as the National Council of Farmer Cooperatives with 3 million members have daily need for our data for a multitude of purposes. There are more than a hundred trade, planning, and business associations with national headquarters in Washington, D. C., who could not properly carry on their activities without adequate and reliable agricultural statistics. Examples of these are the National Cotton Council, National Cigar Leaf Tobacco Association, National Grain Trade Council, National Milk Producers Federation, Association of American Railroads, Association of State Planning and Development Agencies, etc.

The business world makes constant use of agricultural statistics in planning such day-to-day operations as routing freight cars, determining potential sales areas, evaluating credit policies, determining sources of supply, etc. Among manufacturers are 40,200 food processors and handlers, 48,300 in textiles, and 6,400 in leather and leather products. Among retailers are 341,300 grocers, 34,000 meat and seafood dealers, and 84,800 distributors of other food.

More than a hundred laws have been passed which involve utilization of a great variety of agricultural statistics. Examples include the Packers and Stockyards Act, the Commodity Exchange Authority, Cotton Standards Act, Grain Standards Act, the Agricultural Adjustment Act, Agricultural Marketing Agreement Act, Federal Crop Insurance Act, Fair Labor Standards Act, Reclamation and Irrigation Act, Interstate Commerce Act, the International Wheat Agreement, the Wool Act, the act establishing parity prices, and the act of 1956 creating the soil bank.

Defense activities have also stepped up the demand for agricultural statistics, especially for detailed data on cold-storage holdings, farm employment, etc.

REPORT OF AGRICULTURAL DATA COMMITTEE

Mr. NEWELL. I would call attention to the study of the agricultural data committee of the American Farm Economic Association. The report of that committee is noted as exhibit A of the information I have supplied to you. In connection with the work of that committee, they made studies of the uses of the data. It points up that some of the largest consumers of the data in the States are the extension people, the county agents, and people of that sort, who are advising the farmers. Their need is for statistics for their home counties.

I would be glad to elaborate on this a little bit more and try to outline some of the other users.

DATA WIDELY USED BY MANY TYPES OF USERS

I would say, further, that the data that we provide are, of course, used in the first instance in the development of programs, the determining of policy, and they later become important cogs in the administration of programs that are carried out on a national basis. They are, of course, used at the county, State, and National levels.

Now, as important as all of this is, it is but part of the story. The farmers are using the reports to a greater and greater degree. I point

out that the programs that I have outlined above have had a good bit to do with it. The marketing research we have been doing, the type of thing we have been getting out in other branches of the AMS, has really had quite an impact, quite an influence, on farmers' consciousness of statistics. In fact, it has had an influence on the consciousness of the entire population of the need for accurate basic statistical facts on which to operate.

Of course, the statistics that we provide are used in the administration of many of these programs. Hundreds of millions of dollars have been expended, and more will be expended, on the basis of the statistics which we provide.

Now, I would point out, too, that the consciousness of all the people for adequate statistical facts has meant that statistics that were of serviceable adequacy and accuracy in the twenties or thirties are not adequate under the present conditions.

Mr. Wells pointed out very clearly in his discussion that economic analyses depend on these data.

IMPROVED ESTIMATING METHODS AND PROCEDURES

I would like to refer for a moment to the investigations which were conducted by a subcommittee to the House Agricultural Committee in 1952 on the work that we have been doing. That committee went into our work most thoroughly. They made some criticisms; they also complimented us on some things. Nevertheless, they made a number of very significant recommendations. One being that this organization should have more facilities for research and development work.

This committee implemented that work by an appropriation in 1954, and we have been carrying on that program ever since.

Two years ago an Agricultural Data Committee was appointed by the American Farm Economic Association. That committee was composed primarily of users of statistical material. They were joined in their efforts by committees of the Extension Service, experiment stations and the National Association of Commissioners, Secretaries, and Directors of Agriculture. The Agricultural Data Committee represented industry as well as the colleges and research workers.

The important thing, I think, that has been brought out in this report is that the service—the Agricultural Estimating Service—is providing is fundamental; it needs strengthening to provide the type of detailed statistics that present-day agricultural business needs. And agriculture is the biggest business in the United States, and certainly it is one of the most complicated. And I believe that farmers and others are in need of the very best statistics they can get if they are going to do the job that they want to do.

SOLE OFFICIAL LONG-TERM RECORD OF AGRICULTURAL DEVELOPMENT

Our estimates, Mr. Chairman, are the only official long-term record on the development of American agriculture. Some of our records reach back almost a century. They record accomplishments of agri-

culture, the position of agriculture in the national economy and the accomplishments of research in related fields.

I would like to characterize our present position much as I would the development of a railroad. A railroad is first built on a single line of track, but as traffic increases, it becomes necessary to put in switches and sidings and do other things to get as much traffic over that track as possible. Finally it becomes necessary to double track the road. That, of course, involves a capital outlay.

I think Agricultural Estimates is in that position. We now have a single-track road and are putting over our track reports on more than 150 commodities; issuing more than 500 reports a year. Our reports are issued on a weekly, monthly, quarterly or annual basis. Our trouble is that everybody wants to get into the station at the same time, and we have come to the point where we cannot avoid delays and occasional breakdowns.

I believe that we are now in the position of having to "double track our road," if you please, to permit us to handle the volume of material with the accuracy, speed, and in the detail that I know American agriculture needs.

LONG-RANGE NATURE OF PROPOSED PROGRAM

This plan that I have presented here is one that will take several years to accomplish. It would take some time to get to the end product. The program that we are suggesting should be undertaken in the four major steps, which I have outlined as projects A, B, C, and D.

The first of these projects, Mr. Chairman, would provide the basic organization, the basic facility which I think is desirable and necessary, really, for the economical and efficient development of the succeeding projects. This project, when implemented, would enable us to meet the first basic needs as outlined in the report of the Agricultural Data Committee.

Now, I do not think I have any further comments to make of a general nature on this program, Mr. Chairman, at this time. If there are questions I would be glad to discuss them. I believe that the report fairly well outlines the proposals that we are making for the long-time strengthening and development of the Agricultural Estimates Service.

Mr. WHITTEN. We have followed your recommendation very closely from the copies which you have heretofore given us. I wonder how much additional money is required, not only for this year but for the future?

SCHEDULE OF PLANNED DEVELOPMENT

Mr. NEWELL. Mr. Chairman, the program in toto is a little difficult to estimate at this time. Looking ahead, I would say that it might involve close to doubling the present appropriation.

But as I indicated, we would not anticipate going into all of it at one time.

Our estimates for project A, the first step in this program, would approximate $2,940,000. I would point out, however, that we are already in partial operation in the 10 Southern States. So we have around $200,000 that would continue in this work.

In addition, language in the present budget statement carries a transfer of funds for county estimating work. I think it is $249,500. So I think it is proper to assume that these two sums included in the budget for 1958 are directly in line with the project A that I have presented—leaving a net increase of about $2½ million for the first project for later consideration in the budget process.

Now, following that, I would prefer to estimate the cost of the succeeding projects after the first project gets underway, because while we have tried to take fully into account the interrelationship of these four projects, I think it is entirely likely that as we get into operations there would be economies that could be worked, and the additional facilities needed for succeeding steps would have to be considered in light of the situation at that time. And I would not want the committee to get some of those things too fixed, because I think that we would be able to undertake a great many things after we got into full operation.

For example, you were talking about the electronic developments. We are very much interested in that approach. Frankly, I think it has a good bit of merit in some situations. The Agricultural Data Committee pointed out that there was a big need for speeding up the reports. We have known that. It has been one of those things that we have been impressed with for a good many years. I think this, when we got into that phase of the work we would want to adapt any labor-saving devices that we possibly could to carry on this work, to compute the statistics and put out the reports as rapidly as possible. And electronics might be a very useful tool.

We, of course, are faced with the problem of having a decentralized organization. You see, we have 41 field offices, scattered all over the country. The volume of information that comes into each of those offices might not be sufficient to warrant electronic computers in each office. But there are possibilities that we would want to look into.

The Data Committee asked for a great many additional items. I think we should look at each of these as we implement each step.

I would like to make another point that I neglected to bring out in the opening statement. I think that when project A is in full operation it would be of great value to the Department as a whole because there are always a number of special surveys that have to be made. We have been making many of them. I think that if we have the organization that is contemplated under this program these surveys could be handled much better and more economically. At the present time it is necessary to start from scratch in developing the organization, hiring enumerators, training them and all the other things necessary just to start the field work.

So a number of things would follow, once we got into the operation. We are deficient in many respects. We need facilities for obtaining better statistics on a number of subjects necessary in our present operations. We are not in position to answer a good many questions on changes in number of farms, for example. That is a very important subject to a lot of people and very important to us from the standpoint of estimating livestock numbers in particular.

We also feel that this program would strengthen the weak spots in our present methods. You understand that we are not anticipating abandoning all the methods we are presently using because many of these methods have been proven over a good many years and have

a great many advantages. But they do have weaknesses, and this project we recommend here would supplement those weak spots and strengthen our statistical methods materially.

Mr. WHITTEN. This committee appreciates the fact that American life is getting more complex, and the use of the statistics which you gather are becoming more important in wage contracts and various other things throughout the governmental structure. I think that we can realize that we must give some added attention to handling your problems, based on the complexities which constantly increase.

Most of the agitation about the accuracy of your figures come when you make a bad guess, so to speak. I recall that this was started by the difference between your estimates and the actual cotton crop a few years ago. There have been certain other instances.

I think, in fairness to you, however, that you ought to put in the record the relatively few instances where those things have occurred. I would be glad for you to put in the record your own story as to the volume of the reports, how long the reporting service has been in existence and how closely accurate you have been, by and large, through the years. These few occasions should not be taken as the usual rather than as exceptions, which they definitely are.

Mr. NEWELL. I would be very glad to supplement the record, Mr. Whitten.

I would just like to say though that the first program that we are proposing here would include some work that we have developed through our research program, carried on since 1954, on physical measurements of crops as they develop in the field during the season. We think, from our researchers, that these studies hold very great possibilities for improving our forecasts. We feel that there is a lot more work to be done and that would be part of this program.

(The material referred to is as follows:)

ACCURACY OF CROP AND LIVESTOCK FORECASTS AND ESTIMATES

It was not until 1912 that the Crop Reporting Board began to interpret the crop condition as reported by farmers in the quantitative forecasts or estimates of the probable final production of the various crops. Up to that time individuals receiving the reports had placed their own interpretation on the meaning of the condition figures as reported. They frequently interpreted a high condition as indicating a large production and a low condition a smaller production. Mostly they were inclined to interpret a decline in condition from one month to the next as meaning a decline in the crop prospects. Studies by the Crop Reporting Board revealed that this was not necessarily true. In fact, it may turn out to be just the reverse; that is, a small decline in the condition from one month to the next may actually mean an improvement in the prospects for the final yield. Because there was so much variation in the way these condition reports were interpreted, farmers were often misled and it was concluded that it would be a distinct service if the Board made the interpretations using techniques applied uniformly throughout the country.

From the beginning these quantitative forecasts have been very popular, and have, for many years, been universally accepted. They now occupy the limelight in the markets throughout the country. Because of their great significance in marketing they are frequently the cause of much criticism, particularly when the forecast for any single period turns out to be very much different from the final estimate at the end of the season.

Most of the criticism stems from the fact that users of the forecasts overlook the basic assumption on which they are made. The forecast, as of any date, is, in fact, the best interpretation that the statisticians can make of the production potential of the particular crop as of the date to which the forecast relates. Since there is no known way of predicting the weather for very long periods in advance, each forecast is based on the assumption that weather and other factors will be about normal for the balance of the season.

The Crop Reporting Board takes every care to be sure that each forecast for each State is carefully analyzed. The statistician in charge of a State collects the raw material from farmers and makes the first review and analysis of it. His report is then sent to Washington, where it is again reviewed by a Board of competent analytical statisticians sitting as a National Crop Reporting Board. This Board frequently has at its disposal more recent collateral check information than is available at the State office when the first analysis was made. It also has the advantage of having the material from all States available, and can appraise the individual State on a much broader basis. Following this system, each forecast for each State for each speculative crop is analyzed, first by the State statistician and his staff and then independently determined by 5 or 6 experienced statisticians sitting as a board, before the final forecast is adopted by the Chairman of the Board.

The forecasts can hardly be classified as guesses. They are thorough analyses made by trained and experienced agricultural statisticians who have at their disposal long series of statistics covering a wide range of conditions. Whether a forecast varies from the final outturn of a crop or not, this unbiased appraisal of the condition and the report of the findings from this appraisal is a very real protection to the farmer against rumors and unfounded hearsay opinions that are constantly circulated in the market. The records of the forecasts through the years show that there has been a gradual improvement in the degree of variation between the forecasts and the final production. There has been, and will continue to be, an occasional year when unforeseen and unpredictable droughts, freezes, frosts, floods, winds, insect plagues, and diseases will strike without warning and will cause abrupt changes in the forecasts, but these wide differences are the exception rather than the rule. For example, the 1951 forecast of cotton production on August 1 was nearly 14 percent above the final outturn of the crop. For the 41 years of record there were only 5 other years when the August 1 forecast had been that far off from the final production. In 19 of those years the August 1 forecast had been 6 percent or less away from final production.

The forecasts usually get closer to the final as the season progresses. This would be expected since, as the crop reaches or approaches maturity, there is less opportunity for weather to affect it. The following tables show the forecast record for a number of the important crops over a period of years.

Frequency distribution of monthly forecasts compared with final estimates, in percent, disregarding signs

	0	1	2	3	4	5	6	7	8	9	10	11 to 15	16 and up	Years of record
Cotton:														
August	2	3	2	5	2	2	3	2	2	3	2	10	3	41
September	4	2	5	2	2	3	4	1	6	1	1	9	1	41
October	1	7	7	3	3	4	2	2	6	2	1	2	1	41
November	7	6	7	2	8	1	1	---	1	---	---	---	---	33
December	9	18	6	5	2	1	---	---	---	---	---	---	---	41
Corn:														
July	3	1	1	5	6	2	3	1	2	3	1	7	8	43
August	---	3	2	4	7	5	3	1	2	4	3	6	3	43
September	2	1	3	9	6	5	3	7	---	2	2	3	---	43
October	2	4	5	4	5	8	4	2	3	2	---	4	---	43
November	4	5	2	1	7	3	7	1	5	4	3	3	---	45
December	5	5	5	4	4	5	6	5	2	2	2	---	---	45
Soybeans:														
August	---	1	2	1	---	2	---	1	1	---	3	4	---	15
September	---	1	---	1	3	2	---	1	2	---	3	2	---	15
October	1	---	1	4	3	---	---	1	1	2	2	---	---	15
November	2	3	1	1	---	1	3	1	2	---	---	1	---	15
December	3	2	3	4	1	1	---	---	---	---	---	1	---	15
Tobacco:														
July	2	5	1	4	7	2	1	2	3	3	1	5	1	37
August	2	4	4	5	2	3	3	3	1	---	4	5	1	37
September	3	6	4	5	5	2	2	---	2	---	2	6	---	37
October	1	10	5	4	4	2	2	1	3	1	---	4	---	37
November	3	6	9	4	3	4	2	1	2	1	1	1	---	37
December	6	6	9	6	3	1	4	1	1	---	---	---	---	37
Winter wheat:														
April	---	---	---	1	2	2	3	1	1	2	---	7	6	25
May	---	---	1	4	4	5	1	3	4	2	1	10	8	43
June	---	1	3	2	2	6	5	2	4	2	2	7	7	43
July	2	2	3	5	7	4	5	1	2	2	---	9	1	43
August	8	8	3	5	5	3	2	5	1	1	2	2	---	45
December	8	12	6	6	1	3	4	---	5	---	---	---	---	45
All wheat:														
June	---	3	6	1	3	---	2	1	4	---	---	5	3	28
July	2	1	7	2	3	3	3	5	2	5	1	5	4	43
August	---	9	7	6	5	4	4	5	2	---	1	---	---	43
September	3	9	7	5	6	2	6	1	2	2	---	---	---	43
October	3	11	7	5	4	5	4	3	---	---	1	2	---	45
December	12	7	12	2	5	3	2	1	---	---	---	---	1	45

Source: U. S. Department of Agriculture, Agricultural Marketing Service, Crop Reporting Board.

Deviations from final estimates, United States

[Percent]

AVERAGE DEPARTURES (REGARDLESS OF SIGNS)

Crop	June, average range	July, average range	August, average range	September, average range	October, average range	November, average range	December, average range	December following year, average range	Years of record
Corn, all	---	10	7	5	4.5	5	4.0	3.0	45
Wheat, all	7	7	3	3	3.0	---	2.0	1.0	45
Cotton	---	---	8	7	5.0	2	1.5	(1)	41
Peanuts	---	---	12	12	9.0	9	6.0	2.7	33
Tobacco	---	6	6	5	4.0	4	3.0	3.6	37
Rice	---	8	7	7	6.0	5	4.0	1.5	45
Oats	10	8	6	5	5.0	---	5.0	4.0	45
Soybeans	---	---	8	13	12.0	9	11.0	6.0	31
Hay, all	---	8	8	7	6.0	---	10.0	9.0	40
Potatoes	---	7	6	5	4.0	4	3.0	---	26

See footnotes at end of table, p. 905.

Deviations from final estimates, United States—Continued

[Percent]

NET AVERAGE DEPARTURES (SIGNS CONSIDERED)

Crop	June percent of final	July percent of final	August percent of final	September percent of final	October percent of final	November percent of final	December percent of final	December following year percent of final
Corn, all		6	3	2	3	4	3	2
Wheat, all	−0.4	−1	−1	−1	−0.6		−0.1	0.1
Cotton			−0.4	−2	−2	−0.3	−0.2	[1]
Peanuts			4	3	2	3	3	[2] 0.5
Tobacco		−4	−4	−2	−2	−1	−0.4	[3] −0.2
Rice		−3	−3	−3	−3	2	−0.4	0.3
Oats	2.5	4	3	3	4		4	4
Soybeans			−5	−9	−9	−7	1	−1
Hay, all		4	4	4	4		7	7
Potatoes		−1	−2	−2	−1	0.2		

[1] Negligible.
[2] July following year.
[3] May following year.

Source: U. S. Department of Agriculture, Agricultural Marketing Service, Crop Reporting Board.

Other estimating problems confronting the Crop and Livestock Reporting Service have to do with the adjustments to the census base each 5 years when the full census is taken. The Crop Reporting Service operates on the basis of year-to-year changes obtained through extensive acreage surveys among farmers. These percentage changes are then applied to a base figure established at the 5-year census periods. The problem here is one of following the basic changes in the number of farms and trends in total cropland. For most of the crops, and for the United States as a whole, the adjustment in acreage to the census base in recent years has been relatively minor. For most of the major crops in the 1954 census the revisions amounted to 1 or 2 percent with practically no change for corn, wheat and rice. For sorghums, a crop which has been shifting greatly during the past 5 years, the revision in acreage was 4 percent and production 8 percent.

In relation to livestock and poultry estimates, present procedures have provided reasonably satisfactory measurements of year-to-year changes. During the past 25 years the original estimates, as a percentage of the previous year for the major livestock and poultry items, have seldom been more than 2 percentage points away from the revised final estimates. For example, in connection with chickens on farms January 1, the original estimates of change were more than 2 percentage points away from the final in only 4 of the past 20 years. Similarly, in connection with egg production estimates, the departures of the original from the final are more than 2 percentage points in only 3 years; turkeys raised, only 1 year. Sim ilar comparisons for livestock on farms on January 1 are as follows: Cattle and calves on farms January 1, only 4 years out of 26; hogs and pigs on farms, 3 years; and all sheep and lambs, only 1 year.

For many purposes, percentage comparisons with estimates for previous years are most useful and an error in actual level is not too serious. With the increasing demands being placed on agricultural statistical data, the importance of accurately measuring the correct level is becoming increasingly important. Errors of only 2 percentage points in the estimates as percentages of previous years cannot be considered too serious for any one year. It is serious, however, when, for several consecutive years, these errors are all in the same direction. An examination of the attached tables will indicate that the present procedures have quite accurately measured year-to-year changes.

Over a period of years, however, the differences have resulted in an accumulative error and substantial revisions have often been required. The original estimates are revised after data from the 5-year census of agriculture are available. The original estimates as percnet of the final estimates for selected items in census years are as follows:

Original estimates as percent of final

	1945	1950	1955
All cattle on farms Jan. 1	96	102	99
All hogs on farms Jan. 1	101	103	109
Sows farrowed, spring	99	103	105
Sows farrowed, fall	101	103	108
All sheep on farms Jan. 1	103	103	98
All chickens on farms Jan. 1	99	105	114
Turkeys raised previous year	104	101	94

Original and revised estimates—Poultry percentage of the previous year

Year	Chickens on hand Jan. 1			Chickens raised			Annual egg production		
	Original percent	Revised percent	Difference	Original percent	Revised percent	Difference	Original percent	Revised percent	Difference
1935	90	90	0	103	102	−1	97	98	+1
1936	103	103	0	111	109	−2	102	103	+1
1937	105	105	0	85	84	−1	111	109	−2
1938	92	92	0	111	108	−3	98	99	+1
1939	107	107	0	108	107	−1	103	104	+1
1940	104	105	+1	89	91	+2	102	102	0
1941	96	96	0	116	118	+4	106	106	0
1942	112	113	+1	111	113	+2	115	116	+1
1943	114	114	0	118	119	+1	112	112	0
1944	106	107	+1	80	83	+3	107	107	0
1945	89	89	0	110	107	−3	95	96	+1
1946	103	101	−2	81	83	+2	100	100	0
1947	90	89	−1	100	98	−2	99	99	0
1948	98	96	−2	86	85	−1	100	99	−1
1949	97	96	−1	117	115	−2	102	102	0
1950	107	106	−1	90	88	−2	106	105	−1
1951	97	94	−3	99	101	+2	101	98	−3
1952	102	99	−3	93	90	−3	103	100	−3
1953	96	93	−3	100	98	−2	101	100	−1
1954	102	100	−2	102	99	−3	105	102	−3
1955	101	98	−3	86	86	0	101	101	0
Average difference regardless of sign			1.1			2.0			1.0

Year	Chicks hatched			Turkeys raised			Commercial broilers produced		
	Original percent	Revised percent	Difference	Original percent	Revised percent	Difference	Original percent	Revised percent	Difference
1935				95	96	+1	126	126	0
1936				135	134	−1	124	124	0
1937				92	92	0	128	128	0
1938				103	104	+1	121	121	0
1939				125	125	0	121	128	+7
1940				102	101	−1	124	135	+11
1941				97	96	−1	132	134	+2
1942				100	100	0	118	119	+1
1943				100	98	−2	123	125	+2
1944				110	110	0	92	96	+4
1945				123	122	−1	132	133	+1
1946				92	94	+2	79	80	+1
1947				86	85	−1	103	106	+3
1948				91	93	+2	119	119	0
1949				132	131	−1	137	139	+2
1950				107	108	+1	123	123	0
1951	115	116	+1	119	120	+1	131	125	−6
1952	97	98	+1	115	117	+2	110	109	−1
1953	107	105	−2	93	96	+3	111	110	−1
1954	103	102	−1	111	113	+2	111	111	0
1955	98	100	+2	97	97	0	103	103	0
Average difference regardless of sign			1.4			1.2			2.0

Source: Crop Reporting Board, Agricultural Estimates Division, Agricultural Marketing Service, U. S. Department of Agriculture.

Intentions to farrow, original and revised estimates—spring and fall sows farrowing, percentage of previous year

Year	Spring farrowings				Fall farrowings			
	December intentions	Original percent	Revised percent	Difference	June intentions	Original percent	Revised percent	Difference
1933	102	101	104	+3	108	99	101	+2
1934	92	72	75	+3	62	53	56	+3
1935	83	78	80	+2	120	126	131	+5
1936	124	130	127	−3	114	104	103	−1
1937	95	89	89	0	97	97	97	0
1938	105	111	110	−1	109	116	117	+1
1939	121	125	128	+3	116	116	118	+2
1940	100	93	95	+2	88	87	89	+2
1941	86	95	94	−1	113	113	116	+3
1942	128	125	125	0	125	124	124	0
1943	124	126	126	0	125	112	111	−1
1944	84	77	76	−1	66	65	65	0
1945	93	89	90	+1	112	112	111	−1
1946	104	99	97	−2	84	87	87	0
1947	106	107	106	−1	109	104	103	−1
1948	89	92	92	0	100	105	104	−1
1949	114	115	113	−2	113	111	110	−1
1950	107	105	104	−1	105	107	106	−1
1951	104	104	103	−1	104	103	100	−3
1952	92	89	88	−1	91	88	85	−3
1953	87	88	85	−3	95	91	88	−3
1954	106	111	109	−2	110	114	112	−2
1955	105	109	109	0	111	111	111	0

Source: Crop Reporting Board, Agricultural Marketing Service, U. S. Department of Agriculture.

Original and revised estimates—Livestock on farms, percentage of previous year

Year	Cattle and calves			Hogs and pigs			All sheep and lambs		
	Original percent	Revised percent	Difference	Original percent	Revised percent	Difference	Original percent	Revised percent	Difference
1930	103	104	+1	93	94	+1	103	107	+1
1931	102	103	+1	98	98	0	103	103	0
1932	102	104	+2	109	108	−1	102	101	−1
1933	104	107	+3	103	105	+2	97	98	+1
1934	103	106	+3	91	94	+3	99	101	+2
1935	89	93	+4	65	67	+2	95	97	+2
1936	100	99	−1	109	110	+1	99	99	0
1937	98	97	−1	100	100	0	101	99	−2
1938	99	99	0	103	103	0	101	100	−1
1939	101	101	0	111	112	+1	102	101	−1
1940	103	103	0	118	122	+4	101	102	+1
1941	104	105	+1	88	89	+1	102	104	+2
1942	104	106	+2	112	112	0	103	104	+1
1943	104	107	+3	122	122	0	97	98	+1
1944	104	105	+1	114	113	−1	93	92	−1
1945	99	100	+1	72	71	−1	93	92	−1
1946	97	96	−1	104	103	−1	93	91	−2
1947	98	98	0	93	93	0	91	89	−2
1948	97	96	−1	97	96	−1	93	92	−1
1949	100	100	0	104	103	−1	92	90	−2
1950	103	101	−2	106	105	−1	97	96	−1
1951	105	105	0	107	106	−4	102	103	+1
1952	107	107	0	102	100	−2	104	104	0
1953	107	107	0	86	83	−3	98	100	+2
1954	101	101	0	89	87	−2	97	98	+1
1955	101	101	0	113	112	−1	99	101	+2

Source: Crop Reporting Board, Agricultural Marketing Service, U. S. Department of Agriculture.

The development of the crop-reporting service, particularly as outlined in project A, would provide the facilities necessary for obtaining reliable information on the changes in the number of farms and the farms keeping livestock. The fact that such measures of trend were not available led to some of the discrepancies, the most striking being the over estimates of about 14 percent on certain poultry items from 1951 to 1955. The project would also make possible the

development of data showing the physical development of the crop during the season and thereby providing a new and more scientific basis for crop forecasting during the season.

NEED FOR FOREIGN AGRICULTURAL DATA

Mr. WHITTEN. You are probably familiar with the fact that this committee a couple years ago put money in our appropriation bill for the gathering of market statistics by the Foreign Agricultural Service. That came about because, in our efforts to get the Department to sell American cotton in world markets on a competitive basis, we had to put inspectors in the field to actually find out what foreign countries were doing to increase their production. We also used our investigators to find out what foreign cotton growers were doing to accelerate sales. It made us realize that, however hard the Department might be trying to get information on foreign production and foreign agriculture, we were failing to meet the need. Not only in this complex period in which we live has it become important to get a more accurate information on domestic production, but if we are going to legislate wisely in the Congress or administer wisely at the Secretary's level, we must know what the rest of the world is doing.

So I hope that we can see our Foreign Agricultural Service continue to make progress. They have made a world of progress since we set that fund up. So we will have an accurate picture at home and an accurate picture abroad. I think that movement is important.

Mr. NATCHER. Mr. Chairman, I just want to join with you in your statement concerning the importance of this particular division. At the present time Mr. Newell, your division occupies a very important position and more so than it ever has in the history of the Department.

I want to thank you for the material that you furnished us last week. I have examined the programs and the projects as outlined, and they are in fine shape. I want to thank you for your fine statement.

Mr. NEWELL. Thank you, sir.

PROPOSED INCREASES FOR 1957

Mr. WHITTEN. I notice you have one increase of $257,500; that is not for the purpose of initiating the program we have been discussing here, is it?

WEEKLY WEATHER-CROP REPORTS

Mr. NEWELL. This is an increase approved in the budget for 1958. It includes three items, Mr. Whitten. The first is a request for an increase of $84,400 to provide for the weekly weather and crop reports.

Let me say first we have considered this item in light of the long-range program we have been discussing. It would fit into that program because this is related very closely to the problem of more frequent and more rapid information on crop development. So it would be in line with the long-range program that we have presented here.

Specifically the project here is one which provides for collection and release of weekly crop and weather reports in cooperation with the Weather Bureau. For many years we have been cooperating with the

United States Weather Bureau in those States where we could stretch our facilities to assume the extra work. It has been undertaken without additional funds of any sort, and it is one of those places where we have tried to fill a need wherever we could.

The Weather Bureau has been pressing us to take the agricultural part of it over in full, for several years, but we have reached our limit and are not in position to go further. The Bureau of the Budget has also been insistent that we take it over. This estimate would provide for strengthening the service in those States where the Weather Bureau is now doing the greater part of the work in connection with these weekly weather reports and to provide the Agricultural Estimates Division with funds necessary to go into nine States where we have not initiated service.

So with this amount of money we would go ahead and take on our proper job in all the States and in addition provide for manpower to work with the Weather Bureau here in Washington in preparing the national release.

Mr. WELLS. Mr. Chairman, may I make a supplemental statement here?

Mr. WHITTEN. Yes.

INCREASE WOULD PERMIT SYSTEMATIC ISSUANCE OF REPORTS

Mr. WELLS. This provides for the crop and livestock estimating service assuming full responsibility for collecting all crop condition data which go into the weekly crop and weather reports. It provides for the systematic issuance by each State of a weekly weather and crop report. It provides for taking care in rather systematic manner of what has been a very troublesome problem over the years. As you people realize, our State statisticians issue a monthly crop report. Weather conditions can change rather rapidly and quite frequently during the growing season. And one of the problems faced in each office and in Washington is some kind of an orderly vehicle for commenting on changes and developments from week to week. I think this does provide an orderly method for following changes in crop-growing conditions from week to week and would fill to a considerable extent the "gaps" between the monthly crop reports, which as you people know is usually issued 8 to 10 days after the end of the month. We think this is a major step forward.

Mr. MARSHALL. Would that include reporting on subsoil moisture conditions?

Mr. WELLS. The Weather Bureau furnishes us the weather data.

Mr. MARSHALL. Unless they collect the data on subsoil moisture, you would not have that?

Mr. WELLS. No; we would not know.

KANSAS SUBSOIL MOISTURE REPORT

Mr. NEWELL. Mr. Marshall, in some States where there is cooperative work we do make a subsoil moisture report. As in Kansas, where the State has been primarily responsible for providing the funds to do that. It is not general.

I have here a few copies of the last one of these reports out of Topeka, Kans., if you would be interested in seeing it. It is a brief report. But that is the type of thing that we have been doing.

Mr. HERMANN. Mr. Chairman, might I add one other thing? I think it is important.

Mr. WHITTEN. Yes, sir.

DISCONTINUANCE OF QUESTIONNAIRES FOR COLLECTION OF CROP DATA

Mr. HERMANN. The Budget Bureau has advised the Department and the Weather Bureau on numerous occasions that approval of questionnaires for collection of crop data will not be extended beyond July 30, 1957. That is one of the urgent reasons we are bringing up this question at this time.

Mr. WHITTEN. Were you given any reasons by the Budget Bureau as to why those funds were eliminated?

Mr. NEWELL. The basis for that is they have insisted that reporting on crop conditions is our job, and we think so, too. We agree that the crops work is a function of Agriculture and we should take responsibility for it.

Mr. WELLS. As I say, Mr. Chairman, this comes from the Office of Statistical Standards, Assistant Director of the Bureau of the Budget, whose job it is to coordinate and try to see that we have an orderly statistical system in the United States Government. I do not think there is any disagreement in this case between the Weather Bureau and the Department.

METHOD OF PRESENTING ESTIMATES FOR PROPOSED EXPANSION OF PROGRAM

Mr. WHITTEN. Has any request gone through the Secretary's Office for this long-range program to be submitted to the Bureau of the Budget? Or has there been any progress within the Department to get Budget approval of funds for this expansion?

Mr. WELLS. Mr. Chairman, the budget-making procedure was well underway, of course, at the time your request for a report on strengthening agricultural estimates was received. What we have done was to review Mr. Newell's report with the Secretary's Office and with the Assistant Director of the Bureau of the Budget in charge of Statistical Standards. We have indicated that this report forms the basis against which we will test any future applications for funds. We have told them that certainly this has implications in terms of future appropriations, but we have not presented it through the regular budgetary channels in the Secretary's Office or to the Estimates Branch of the Bureau of the Budget. The report or program is not presented as a request for increased appropriations this year, but rather to comply with your request for a comprehensive plan for the development of the Crop Estimating Service.

Mr. WHITTEN. I asked you that because normally we have found it best, year in and year out, that the operations of the Department go through the orderly budgeting process. We, on occasions, have added funds where we were familiar with the operation for a considerable length of time, and for some reason they seem to be held up. In this case the committee should probably comment on your statement in our report, but actually wait for you to go through the normal processes.

Mr. WHITTEN. There are two other small increase items, I believe.

IMPROVED ESTIMATES OF CHICKEN NUMBERS AND EGG PRODUCTION

Mr. NEWELL. There is an item here of $73,100 for improving the estimates of poultry-laying flocks and egg production. I think you may be familiar with the problems we have had in that field.

Again, we say that this work, if undertaken, would fit into the long-range program that I have presented here, because in the long-term program we would need to do this sort of thing to begin with, anyway.

The problem that we have had here is that, as you know, we have missed the estimates of egg production, and there was considerable concern that we should try to strengthen the work so as to keep track of the trends in this poultry industry.

We are proposing here to supplement our present work by improving the analysis and doing an intensive job on trying to keep track of this rapidly developing commercial poultry industry. Mr. Marshall's question, a few moments ago, points up quite clearly one of our problems. We have very little information on which to base an answer as to what proportion of the eggs are being produced in the rapidly expanding large commercial flocks.

I looked over some figures here. I do not have egg production on these places, but I can tell you that the trend of chicks in commercial poultry flocks—let me put it that way— have increased very markedly from the last census.

Just an example of a few: Indiana increased from 16 to 36 percent; Ohio from 13 to 39 percent; Minnesota from 19 to 40 percent; Iowa from 12 to 27. Of course, California has always been very heavily commercial, but in that State the increase was from 83 to 92 percent. So it is evident that the egg production we were talking about a moment ago is quite variable as between States.

So we are seeking this fund to permit us to follow this poultry development more closely than we have been able to in the past. We would add some manpower in the field offices to improve the list and follow developments much more closely. In this project we would devote major attention to commercial poultry flocks.

IMPROVED ESTIMATES OF PRICES RECEIVED AND PAID BY FARMERS

The next item that you have before you is one for $100,000 for testing alternative methods of improving the estimates of prices received and prices paid by farmers. I do not need to tell the committee how important this pricework is. It is the basis of parity prices; it is utilized in many of the programs of the Department and is necessary in much of the economics analysis.

This program is directly and could be a very intimate part of the project B that we are presenting as a step in carrying out development of the projected program. It is an exploratory project designed to find out how to handle some of the most difficult items that we have facing us in the way of pricing. We are now using a questionnaire technique in this work and will continue to use it, but we do find that it is very difficult to get at the prices of a number of items, such as larger farm equipment items—automobiles, trucks, tractors, and things of that sort.

PERSONAL INTERVIEWS TO SUPPLEMENT MAIL QUESTIONNAIRES

And we find it necessary to supplement the mail questionnaire by personal interview in the field. The program provided for by this fund would permit us to go into about four States with an intensive program. We would test our mail techniques against interview techniques, and subsequently develop the type of organization that might be best adapted to the entire operation if it will prove feasible.

So it is very much in the nature of an exploratory program. We would do the same sort of thing with prices that we have been trying to do with acreage and production. We feel that it is one of those things that we are really in great need of at this time.

Mr. WELLS. Mr. Chairman, this is a project which, as Mr. Newell has indicated, is really an integral part of his price project in the long-term plan, and it had been discussed both with the Secretary's Office and the Budget Bureau prior to the completion of the plan or report which Mr. Newell has presented. But it is, I think, an essential first step toward moving in the direction that is indicated.

The way we conceive of the plan is to proceed step by step into the future evolution of the program.

Mr. WHITTEN. How many new people will you need for this?

Mr. HOLMAAS. Forty-one permanent positions. We figure 20-percent lapse on those. That would leave 33 net man-years and about 10 intermittent employees.

Mr. NEWELL. I was going to say about 30.

Now, as a matter of fact, on this price project, Mr. Whitten, the 10 intermittent employees would be field enumerators. We do not use those people except when we need them at a particular time.

Mr. WHITTEN. Are there any further questions?

If not, we appreciate your presentation, Mr. Newell.

We will recess until tomorrow.

THURSDAY, FEBRUARY 14, 1957.

Mr. MARSHALL. The committee will be in order.

At this time we will hear from Mr. Lennartson, Deputy Administrator of Marketing Services.

MARKETING SERVICES

Mr. LENNARTSON. Thank you, Mr. Chairman. It is naturally a pleasure for us to again report on the activities under the subappropriation, "Marketing services" and closely related programs of the Department. These are all well-established services and probably some of the most popular that are carried on by the Department because of their day-to-day character, and the benefits and the type of tools they present to producers, dealers, financial institutions, consumers, and anyone associated or interested in distribution of agricultural commodities.

These marketing services are composed of several broad areas, three of which I will discuss separately at this time, namely the market news services, the inspection and grading and classing services, and the regulatory services which are essentially activities to assure rules of fair play in the market place.

I think it might be of interest to the committee to know that these regulatory activities, which include administration of such laws as the United States Warehouse Act, Packers and Stockyards Act, and Federal Seed Act, have come to be looked upon by those who benefit from them as more of a service type of program than a regulatory activity, as they were considered to be when they were first inaugurated.

That is rather pleasing to us. It has been one of our objectives to operate the regulatory activities in a manner which essentially would be service in nature.

PUBLIC INTEREST IN MARKETING SERVICE

In our day-to-day operations we note that there is an increasing tendency on the part of producer groups, individual producers, market people, consumer groups, and others to look more and more to the activities carried on under the "Marketing services" subappropriation and related funds than at any time in the past.

I think that is a natural consequence of the development of new products, new production areas, shifts in production areas, and essentially better means of communication. It reflects the fact that distribution of farm products is becoming more complex as our Nation increases in population, yet essentially becomes smaller because of improved communications and transportation.

Greater interest in and reliance on marketing-services programs is reflected in a number of ways. In the field of market news we have continual requests for services at all levels of trading—more than we can even hope to provide at any given time. Much more attention is being given by producer groups, by State agencies, and others to bringing market news gathering and reporting back closer to where the producer sells his commodity.

Earlier in these hearings considerable discussion occurred with respect to direct buying and direct selling of agricultual commodities in producing areas. We are getting a lot of attention and many requests for market news coverage of such transactions. Some of these needs are reflected in the increases requested in our budget for 1958.

New products are being developed from day to day. Requests for official standards and grades on these new products are continually occurring. Also increases in the use of the present inspection and grading services under which these grades and standards are applied have been rather spectacular. These are accompanied by increased need for and interest in improvement of standards and procedures for dairy products, beef, poultry, and in the field of processed fruit and vegetables, where the matter of freezing and canning is expanding substantially and naturally resulting in numerous requests for new types of standards and modification of those presently in use.

I commented briefly on the regulatory services. Increasing attention needs to be given to administration of the Packers and Stockyards Act, the United States Warehouse Act, and the Federal Seed Act. As we indicated earlier in the hearings, a very substantial increase in foreign imports of the grass seeds, and so on, has put added workload on our seed laboratories in certifying the seeds for entry into this country.

Now, for these marketing services, overall, we are asking for a net program increase this year of $795,600. That reflects about a 6 percent increase in the base appropriation of last year, which was about $13 million.

That is in terms of direct appropriation only. If we were to add to this base the substantial amount of income we derive from these services by way of reimbursements through fees and charges for services performed, it would represent less than half of that percentage increase or about 2.5 percent. With respect to the appropriation, however, it represents about a 6 percent increase.

Market News Service

In the field of market news we are asking for a program increase of $292,000, which is distributed among 4 of the major commodity groups for needed expansion or strengthening of the market news services for those commodities. These are dairy and poultry, fruit and vegetables, livestock and tobacco.

DAIRY AND POULTRY MARKET NEWS IN PRODUCING AREAS

In these fields, some expanding of the reporting work is needed. We need to expand the price reporting activities out into the country where a lot of direct buying is done in the commercial areas of production in the New England States, in the New Jersey and Pennsylvania areas which supply New York City, and in Wisconsin.

As we indicated earlier in these hearings, much of the buying and selling activity is bypassing the terminal markets. This is true in all commodities, but it has become particularly acute in the nearby commercial egg-producing areas supplying New York City, in the egg and broiler producing areas of New England, and in some areas of the Midwest for both dairy products and eggs.

We propose to extend our reporting work out into the producing area in the New England States, on eggs and poultry, in New Jersey and Pennsylvania on eggs, and in Wisconsin on eggs, butter, fluid milk, cream, and whey.

I might say, that in this project we will not inaugurate these expanded services unless the States share with us proportionately in the expenses, and that these States have indicated a willingness to do so. These proposals and method of financing are in line with the policy established in the long-range plan for development of market news which this committee was quite interested in, and instrumental in having developed a few years ago.

REPORTING OF FRUIT AND VEGETABLE TRUCK RECEIPTS

We also desire to continue to expand the reporting of receipts of fresh fruits and vegetables arriving by truck in the terminal markets. This is the third year we have asked for an increase in this field, and we are asking for $104,765 to extend this reporting to 23 additional cities.

At the present time and with the increases provided in the last 2 years, we are reporting truck receipts in about 40 markets of the Nation. We desire to extend that to an additional 23, and strengthen

the service in a few of the larger terminal markets where some reporting is now underway.

We hope to, finally, provide this type of reporting to at least 75 of the more important fruit and vegetable markets throughout the country. This is an extremely popular service with the fruit and vegetable industry, all the way from the producer through the distribution phases.

It is a highly essential service because of the tremendous shift that has occurred in this country in the movement of our fruit and vegetables by trucks rather than rail shipments, which prevailed in the earlier years.

MARKET NEWS ON HOG MARKETING IN INDIANA-OHIO AREA

I mentioned that we also desire to extend our service in the livestock field. We propose to do this by establishing a joint operation with Indiana and Ohio on hog marketings. Establishment of a focal point at Muncie, Ind., is proposed to not only report receipts and prices on that market, but to do extensive reporting of direct selling in that tremendous hog-producing area extending across the central portions of the States of Ohio and Indiana. We are asking an additional $22,000 to begin that activity.

It is likely that Indiana will be in position to join with us this coming year on its proportionate share. Both Indiana and Ohio now have under way exploratory projects with the Department covering this activity. Ohio, however, because of its late start, will not complete its present project until next year. Once that is completed, they desire to join with us and finance the portion of the activity in the State of Ohio.

TOBACCO MARKET NEWS FOR KENTUCKY, TENNESSEE, NORTH CAROLINA, AND VIRGINIA

Finally, there is a small item of $10,400 to extend and improve the market reporting services on tobacco in Clarksville, Tenn., and in Greeneville, Tenn. This results from the fact that a number of new tobacco markets have been designated for free inspection in western Tennessee and Kentucky and in eastern Tennessee and in western North Carolina and southern Virginia, with the result that we have attempted to handle the market news activity through offices quite a distance from some of these markets and thus weakening the service at all points. We desire to bring the reporting service nearer the points where the tobacco is being sold to facilitate market news distribution and provide the needed services.

That covers the extent to which the increases reflect expanded services as such.

MODERNIZING THE MARKET NEWS LEASED-WIRE SYSTEM

An increase of $30,500 is included to step up and modernize the market news leased-wire system.

As you will recall, during the past 2 years we have had increases reflected to modernize that system the first year in the western section, last year in the central portion of the country, and this year we would like to perform the same type of function on the eastern and livestock

circuits and to provide a relay point on the southern circuits. This will greatly aid in putting the entire nationwide system on a modernized, stepped-up basis in order to carry the heavier workload resulting from the expansion in the market news services.

TECHNICAL SUPERVISION OF MARKET NEWS

Another item which we are requesting is one of $96,785, for what we think is an extremely important purpose.

Through the years our objective has been to expand services wherever necessary to provide producers with what they and we feel are essential activities in the market news reporting field and we, frankly, have failed to keep step in providing adequate supervision of the services established on the markets.

As a result, we must frankly admit that our supervisory activity on the market news system is not adequate. We have over 100 offices which are staffed by only 1 reporter and 1 clerk and very seldom, if ever, does any of the supervisory staff have time to visit them or work with them to help in doing a more efficient and effective job.

Secondly, in the market news field, cooperation with the States—the State departments of agriculture—has increased substantially, and they, too, are asking for additional services in terms of technical assistance on the part of our supervisory people to provide market news more effectively and efficiently and to assure that expenditure of the moneys that we have in the system bring the desired results.

So, what we are proposing to do with this increase is to provide adequate staff supervisors on a reasonable basis to pay close attention to the market news activities being performed in order to make it a more effective system and to do the job more efficiently. We think it would be money extremely well spent.

We propose this improvement this year primarily in the fields of dairy and poultry products, fruits and vegetables, and livestock, meats, and wool.

I move now to the inspection and grading services——

Mr. MARSHALL. Before you do, we might like to ask some questions at this point.

Mr. LENNARTSON. Surely.

LOCATIONS OF PROPOSED SERVICE ON FRUIT AND VEGETABLE TRUCK RECEIPTS

Mr. MARSHALL. You mentioned the 23 new offices that you were putting into effect for fresh fruits and vegetables on trucking.

Mr. LENNARTSON. Yes.

Mr. MARSHALL. Could you identify those by location?

Mr. LENNARTSON. I don't have that right here, but we could certainly furnish it for the record.

Mr. MARSHALL. Yes; I think we should have that.

Mr. HOLMAAS. I have a list of them here, such as San Diego, Omaha, Oklahoma City, Syracuse, and so on, at many of which we already have some marketing service activities.

Mr. MARSHALL. I think we might just as well submit it for the record.

(The information requested follows:)

REPORTING TRUCK RECEIPTS OF FRUITS AND VEGETABLES INCREASE REQUESTED FISCAL YEAR 1958

The increase of $104,765 would provide for strengthening existing service at Atlanta, Dallas, and New Orleans and initiation of truck receipt reporting on fruits and vegetables at the following 23 cities:

Scranton-Wilkes Barre, Pa.	Norfolk, Va.
Toledo, Ohio	Grand Rapids, Mich.
San Diego, Calif.	Dayton, Ohio
Omaha, Nebr.	Flint, Mich.
Oklahoma City, Okla.	El Paso, Tex.
Syracuse, N. Y.	Youngstown, Ohio
Richmond, Va.	Springfield, Mass.
Jacksonville, Fla.	Davenport, Iowa
Hartford, Conn.	Columbus, Ohio
Des Moines, Iowa	New Haven, Conn.
Spokane, Wash.	Raleigh, N. C.
Fort Worth, Tex.	

The report for Fort Worth would be made from the Dallas office strengthened as stated above. The work in the remaining 22 cities would be performed under cooperative arrangements in 1 of the 3 following ways, depending on the facilities available in the city:

1. By fresh fruit and vegetable inspectors;
2. By State departments of agriculture;
3. By local public organizations such as chambers of commerce, etc.

This entire extension of truck receipt work would require an estimated increase of 6 man-years of Federal employment.

Mr. LENNARTSON. This is the fruit and vegetable truck reporting work.

Mr. HOLMAAS. There wouldn't necessarily be any new offices at the 23 cities involved.

OTHER PROPOSED MARKET NEWS LOCATIONS

Mr. MARSHALL. Also you mentioned a location at Muncie, Ind., and also two proposed in Tennessee. Do you have any other offices besides those that you expect to open up, new offices?

Mr. LENNARTSON. No, not on market news—and as we have indicated, all of these would not be new offices. Of course, we do have a substantial number of requests for additional offices which, within the budgetary limitations, we are naturally not able to take care of. We have selected these proposed expansions as being the most outstanding and most needed at this time. We could furnish a list of those to you if you desire, Mr. Chairman, as we have done in the past.

Mr. MARSHALL. Yes, we should have it for the information of the Committee.

What do you propose as far as expansion in your existing offices is concerned? Do you have any work that you are contemplating in your existing offices?

Mr. LENNARTSON. No; none other than what might be done on the fruit and vegetable truck receipt work and the other items I have discussed. Now, I might say at this point, Mr. Chairman, that we are modifying our approaches in many of the existing offices as we find that our reports might reflect obsolete information. For instance, in the dairy field we found, through experiment, that we were reporting receipts of milk and cream and so on, had been for a number of years that were no longer needed. In reviewing the program we decided to test whether or not this information was really desired. So we dis-

continued it, got no complaints, so we merely dropped it; a clear indication that we had been going on reporting things that weren't any longer essential.

In the field of poultry market news, in many of our offices we have shifted the emphasis to take in ready-to-cook poultry and commercial broiler production, rather than to continue to report the receipts of live poultry, old fowl and old cocks, as had been the pattern in the past. We have found it true in a number of markets, that there are items that the industry is no longer interested in. Through suggestions, requests and so forth, we are able to modify the activity in that respect.

Mr. MARSHALL. How many new employees do you expect to put on your payroll as a result of this?

Mr. LENNARTSON. On market news, this total request will provide for an additional 26.4 man-years over the base of 539 which we have in 1957. This would be on the average basis for the year considering the fact that we might be delayed in hiring. However in projects of this nature we generally have people within the ranks who are equipped to go on to greater responsibilities that we can shift around. So our employment problems in the marketing services aren't too great.

LIVESTOCK MARKET NEWS AT SIOUX FALLS, S. DAK.

Mr. MARSHALL. What is the situation at Sioux Falls, S. Dak.? Have they raised their contribution?

Mr. LENNARTSON. No. Of the increases obtained last year, the only place we have not yet been able to inaugurate the service on a sharing basis is at Sioux Falls. With all respect to them they tried every means possible to raise their share but were unable to do so.

We are reviewing that situation again, because the market is growing, and it may be that we will have to reconsider what we felt was the proper proportionate share. We may be justified or have essentially a responsibility of putting up more than half. We haven't made any decision on that as yet. We are reviewing the situation. They want the service very, very badly, but they have had extreme difficulty with their State legislature in obtaining their share of the funds.

Mr. MARSHALL. Is their State legislature in session now?

Mr. LENNARTSON. I think their State legislature is meeting, and I believe the Commissioner, Mr. Bruett, was making provision to discuss it with them, but how successful he will be I don't know at this point.

Mr. MARSHALL. For these new offices, are you following a policy of urging local contribution?

Mr. LENNARTSON. Oh, very definitely. It depends on the situation. Sometimes the yards or other market agencies are willing, themselves, to put up their share by way of clerk or office space or other things essential to providing the service.

Mr. MARSHALL. Is that also true of these marketing services on tobacco in Tennessee?

Mr. LENNARTSON. No. They are on a full federally supported basis because of the broad scope of the tobacco area and the fact that it is all contiguous down there. From the outset it was assumed that it was a Federal responsibility across the board.

Mr. ANDERSEN. Would you permit a question relative to Sioux Falls?

Mr. MARSHALL. Yes.

Mr. ANDERSEN. The chairman has mentioned the difficulty at Sioux Falls, S. Dak. Now, that in my opinion is largely because of the fact that Sioux Falls market draws from three States. They draw quite a segment from my part of Minnesota, they draw from northwestern Iowa and then, of course, eastern South Dakota. I presume there is a feeling in the minds of the legislature from South Dakota that it is not up to them entirely to put up the contribution necessary because Sioux Falls, as stated before, does serve that corner which embraces 3 portions—portions of 3 different States.

Mr. LENNARTSON. Yes, Mr. Andersen, we run into that quite frequently. On the other hand, that is why we are interested in it to the extent we are on a Federal basis, because it is of regional scope.

I can sympathize with their argument as an individual State. We have it in a number of States. As has been indicated in years past that is one of the reasons why it is quite difficult to get this whole long-range plan into the financial arrangement that essentially it spells out. It is those types of situations that take a lot of time. It is rather difficult. But I want to hasten and say that under no circumstances, because they didn't do it, have we discontinued services in certain places when funds were available to continue the services.

Mr. ANDERSEN. I am glad to hear that——

Mr. LENNARTSON. That would be extremely unfair to both producer and buyer groups.

Mr. ANDERSEN. I am glad to hear, Mr. Chairman, that Mr. Lennartson has stated that they are reconsidering the allotment as asked for from the State of South Dakota.

Mr. MARSHALL. Undoubtedly these hearings will be published before the legislature in South Dakota acts. I would not, however, wish this hearing to disclose in any way that there is any change of attitude on the part of the Members of Congress toward easing up on our opinion with regard to the fact that we expect local contributions for marketing services.

Mr. LENNARTSON. I appreciate that. What I wanted to convey was that generally we look upon this type of market as a 50–50 proposition. We are reviewing our position in that respect and it may be fair and justifiable to think in terms of a sliding-scale type of arrangement where we may go all the way from 25 up to 75 percent Federal or vice versa on the part of the State. It is that type of considerations that we now have underway.

MARKET NEWS AT FORT SMITH, ARK.

Mr. MARSHALL. What is the status of the Fort Smith, Ark., office?

Mr. LENNARTSON. The Fort Smith people came through with their proportionate share. That is approximately on a 25–75 basis.

Mr. MARSHALL. They are now getting the market news service?

Mr. LENNARTSON. They have a very fine active news market service down there and it is a very popular one, and they are most appreciative.

Mr. MARSHALL. Are you requesting any additional funds for that as of this year?

Mr. LENNARTSON. For Fort Smith? No; we are not, sir.

Mr. MARSHALL. Mr. Lennartson, are you familiar with the feeling at Fort Smith that there should be more money contributed on the part of the Federal Government?

Mr. LENNARTSON. I expect, Mr. Chairman, that they haven't departed from their original position, which was that it was sufficiently important to justify a 50–50 contribution. I assume that one of the reasons they feel that way was the action taken on the Tulsa market.

Mr. MARSHALL. Do you feel that the situation there is being fairly handled at the present time?

Mr. LENNARTSON. Of course, we were strongly on record at Tulsa that essentially the Federal Government had no business in Tulsa at all. We finally resolved the position where we felt we could justify a 50-percent contribution.

INSPECTION, GRADING, CLASSING AND STANDARDIZATION SERVICES

Mr. NATCHER. Mr. Lennartson, the Agricultural Marketing Service has many accomplishments to its credit. Especially during the past 15 years. You will recall that I asked Mr. Wells as to how he felt about the inspection, grading, classing, and standardization service of your division from the standpoint of keeping pace with the other services of your agency.

How do you feel about it?

Mr. LENNARTSON. Mr. Natcher, later on, I will be commenting on an item under inspection, grading and classing, which touches on this very thing.

We think we are keeping pace very, very well with the changing conditions in the distributing field and the needs for the different types of services, the changes that are required there.

It would be difficult to do otherwise because of the interest on the part of the users of these services. They are not bashful about coming forward with suggestions regarding outmoded techniques or for using new types of service. So, we are in an enviable position in that we are sitting where we get reflected to us the changing needs at all times.

In many cases, we can make the needed changes within the appropriation we have, and we frequently do and have done it in many, many cases.

In other cases, as we are reflecting in our requests here, particularly for standards work, it requires additional funds. The changes made within the available appropriations to keep modernized, and the requests for additional funds to meet other needed changes, are the two reflections of our keeping up with the needs of agriculture in this sphere.

Mr. NATCHER. Mr. Chairman, off the record.

(Discussion off the record.)

Mr. WHITTEN. We might go ahead with these items of increase, and you might justify each of those.

PROGRAM INCREASE REQUESTED

Mr. LENNARTSON. Moving on now to the second broad category, inspecting, grading, classing, and standardization, we are asking for a net program increase of $209,600.

The initial item is a reduction of $115,500 to take care of a financial responsibility which is being transferred from this appropriation to the General Services Administration for the rental costs of certain of the facilities occupied by our activities.

In the commodity field—and I might say at the outset that for the first time in many, many years—we are requesting additional funds to improve or to expand the work on standardization. All through the years the expansion of these services has been, essentially, in the actual inspection and grading activity.

Now, however, we reach the point where, because of the development of new products, new techniques in marketing products, and so forth, we are receiving increasing numbers of requests to develop new standards, and, more importantly, to improve techniques of doing the grading job and of modifying existing standards.

INCREASES REQUESTED FOR STANDARDS AND GRADING

For that reason, we are asking for increases here of $12,600 in the field of dairying—on the dairy products—and $25,200 for fresh fruit and vegetables and for processed fruit and vegetables. And another item of $15,700 in the field of livestock.

Now, in the first two, the dairy field and the fruit and vegetable field, there is a matter of (1) increasing the number of standards in those fields, reflecting requests that are coming from industry, retail groups and producer groups and also of developing more efficient techniques so that an adequate, proper job is being done when the grading is actually performed.

PRODUCING AND MARKETING MEAT-TYPE HOGS

Mr. WHITTEN. Where would you fit into the picture? We have seen illustrations of the bacon-type hogs that have been produced with an extra rib, and the lean-type hogs that don't have as much fat. But our people tell us out at Beltsville that we haven't really gone very far with producing those hogs, because there isn't any premium received by the farmer for such hogs. The trouble apparently comes from the weight standards by which hogs are measured.

How would you go about correcting this? Would it have to come from the meat industry? Is it something that you could set up and require?

Mr. LENNARTSON. We enter that field in two respects, Mr. Chairman. One, we have developed Federal standards for the live hog, the meat type as well as the fat hog. We have the models; they are available to all who want to buy them because we do sell them. Those standards have been developed in cooperation with the research people at Beltsville, and the State colleges, as well as the industry itself. We have gone through regular public rulemaking procedures on them. They have all been accepted and they have been promulgated as official standards of the meat-type hog.

In other words, we could grade meat-type hogs under those standards if we were requested to do so.

Mr. WHITTEN. Requested by the industry?

Mr. LENNARTSON. Yes, by the industry. The other important aspect that we enter into is on market news, by actually quoting the

market on the basis of the meat-type hog, and we do that by schooling our market news reporters in what a meat-type hog is and looks like, essentially he could grade a meat-type hog. He is reporting the trading at all the important markets on the basis of No. 1's, No. 2's, No. 3's, which basically are Federal grades.

When it comes to the matter of why aren't adequate premiums paid, that decision is made in the market place. We have no influence over that. We can report only the extent to which use is made of the Federal standards, and by accurately reporting the price actually being paid.

Now, the reasons why processors and buyers don't pay premiums which producers feel are adequate to produce that type of hog is something that lies in the field of economics—the pressures of supply and demand—the supply of other types of hogs, the yields that the processors might get out of them, and so forth. It is a trend that is coming without any question. It is going to come just as fast as the breeders can develop adequate breeding stock to inject into the production channels here.

PROVIDING INCENTIVE TO PRODUCE MEAT-TYPE HOG

Mr. WHITTEN. Well, that is true. But breeders can do that much faster if they are rewarded for their efforts.

Now, if that type of hog is going to sell at a lower price due to the lack of fat, it is much harder to interest the farmer in producing the hog that brings less money though it is more desirable. So we might never reach a sufficient production as long as the producers are penalized, when in actuality he should have some premium for producing what the consumer wants.

Now, what can the Congress do about it? Could we insist that you grade this somewhat like you do on beef? Or will some producer have to produce enough so that he can contract with one meatpacking house and build up a brand name and perhaps thereby eventually get some premium for premium quality?

Mr. LENNARTSON. I suspect it is going to come and going to come only when there is an adequate supply of meat-type hogs so that it will be advantageous or possible for the processors to essentially discount the heavier fat-type hog.

Mr. WHITTEN. Now, you are right back where you started.

Mr. LENNARTSON. Exactly.

Mr. WHITTEN. As long as there is a penalty for the meat-type hog, where it deserves a premium, it seriously retards the shift to a meat-type hog from the other.

Mr. LENNARTSON. I don't think there is any penalty.

Mr. WHITTEN. Certainly there is a penalty.

Mr. LENNARTSON. There isn't adequate premium.

Mr. WHITTEN. All right, that is a penalty. It depends on which way you look at it.

If hogs sell by weight, and you raise a lighter weight hog, you get less money for your hog. Yet, the public would much prefer that lighter weight hog and would pay a premium for it.

Until we can do something, we may never reach the place of having enough production of the meat-type hog to correct the situation.

Mr. LENNARTSON. I feel more confident—I feel confident that it is coming.

Mr. WHITTEN. I won't argue about it coming. But we are talking about whether we are going to do it in our lifetime or in our children's.

Mr. LENNARTSON. No; it will be in our lifetime.

Mr. WHITTEN. The point here is to figure what we might do to help bring about premium pay for premium products.

Mr. MARSHALL. Taking a little bit different tack here: How can it come under present market circumstances?

Mr. LENNARTSON. I repeat that I think we are going to get sufficient supplies of the meat-type hog to do this in the future; that, even with the small premiums now being reflected, there will be sufficient supply on the market so that the processors and the merchandisers will have an adequate supply to take this on much more vigorously than they have. When they do that, they are going to be in position to discount—and I think it should be in terms of that—discount the undesirable aspect of it.

As it is now, it is extremely difficult in view of the supply situation for any—say, for instance, a chainstore taking on a broad merchandizing program on the so-called meat-type hogs. There aren't adequate supplies.

HOG PRICES ON WEIGHT RATHER THAN TYPE OF HOG

Mr. MARSHALL. The quotations—in South St. Paul—are not based on the grade at all. They are based upon the weight of the hog. Your market news service people cannot quote quotations which do not exist on the market.

Mr. LENNARTSON. No; we don't do that. But I was under the impression, Mr. Marshall, that we were quoting the so-called No. 1, No. 2, and No. 3 type hog on the Twin City markets.

Mr. MARSHALL. Which is sold according to weight. That is the basis that the farmer sells his hog on the market. It may weigh between 180 and 200 pounds. It might be as fat as you could make that hog and it would still be selling within that weight, because that is the way the packer buys it.

Mr. LENNARTSON. And it wouldn't necessarily be a meat-type hog.

Mr. MARSHALL. No.

Mr. LENNARTSON. It would be the old type.

Mr. MARSHALL. I would say it is actually upon the basis of what is happening in my neighborhood, that the Extension Service people put on a very strenuous and effective campaign to get farmers to switch from a fat hog to a leaner type of hog and the expectation of the farmer was that he would be given some recognition in the market.

Since he didn't obtain that recognition in the market, it has been my observation that he is going back to the fatter type of hog, rather than going to the lean type of hog.

Mr. LENNARTSON. I don't know, Mr. Marshall. I am just wondering if farmers aren't selling a lot of the old-type hog merely at lighter weights, which is not a meat-type hog. A meat-type hog from the standpoint of the leanness and the conformation, is quite different from merely the old-type hog not fattened.

Mr. MARSHALL. The farmer understands that part. But what he knows is that when he takes a truckload of hogs down to the market, that that market may be based that day on a weight from 180 to 200 pounds, and there is no discrimination made as to whether it be a fat- or lean-type hog in his price.

Mr. LENNARTSON. You are correct.

Mr. MARSHALL. He discounts all of the information, even though it may have been valuable from the whole market standpoint, because he says, That is what I got that day, so why bother about the rest of this?

Mr. LENNARTSON. What you are saying is, even though it was a meat-type hog, it would be thrown into that same weight group?

Mr. MARSHALL. That same weight.

Mr. LENNARTSON. And get that minor premium or essentially a discount as you explained it, Mr. Chairman.

Mr. MARSHALL. When my wife and I go over to the meat market we see pork laid out there, we have no assurance in looking at pork as to how—what grade of that particular pork is on that meat counter. We can't protect ourselves in the purchase of pork in the market.

Mr. LENNARTSON. That is correct. And all we can do, you and I as consumers, is do our selection by observation. Of course, there are very few consumers technically trained to select by observation as to that type of meat.

REASONS FOR DIFFERENCES IN MARKETING PORK AND BEEF BY GRADE

Mr. WHITTEN. I think this is important in line with the questions Mr. Marshall has been asking, describing the difference in pork and beef.

Now, the situation that Mr. Marshall describes is accurate with regard to pork. I like pork, but buy very little pork because when I get home, I have half fat and half meat. With regard to beef, I can go in and find different selections.

Now, I want you to describe wherein the difference arises between these two types of animals and the products from them.

If there are distinctions and differences in the handling of the two, perhaps from that we might determine what we can do to bring about an improved situation.

Mr. LENNARTSON. Fundamentally, there are no differences in the two products in establishing grades——

Mr. WHITTEN. I want to start way back.

Mr. LENNARTSON. It would be just as simple to establish the type of grades on cuts of pork as it has been on beef.

Now, as you all know, the increase in the use of the Federal grades on merchandizing and retailing beef have been absolutely fabulous, widely accepted by most retailers and certainly by all consumers. Why the industry took that on, I can't say, but it has been a fabulous development in beef.

We have seen nothing like that expressed from the standpoint of demands for service or merchandizing techniques on pork.

It may be—and I am just giving this as an observation—it may be that the opportunities in pork weren't quite similar to what they were in beef, from the standpoint of the cuts. When you sell a carcass of beef, you are selling the whole carcass as such, and it generally moves through channels in halves and quarters, and so on.

Whereas on pork it is cut up into many pieces, and many of the parts go into the preparation of other types of foods than you would have on beef. So that essentially, you are dealing in loins, shoulders, and hams, and of course the hams are processed from the raw state into the smoked product.

That is the only observation I could make at this time, Mr. Chairman. It is the difference in merchandizing techniques and the development somewhere along the line of interest in beef in contrast to pork.

Mr. WHITTEN. In the grading and classing of beef, is there any law requiring that or requiring action by your department?

Mr. LENNARTSON. None whatever. There were only two occasions when it was mandatory and that was during World War II and during the Korean incident.

Mr. WHITTEN. Now, the meat industry has built up a public knowledge of types of cuts and grades of beef.

Mr. LENNARTSON. That is right.

Mr. WHITTEN. What part does the Government play in that grading and who pays the bill?

Mr. LENNARTSON. Well, we grade all the beef that is marketed under Federal grades. It is all federally graded.

Mr. WHITTEN. From Federal plants?

Mr. LENNARTSON. We stand ready to grade beef in all federally inspected plants. We will grade beef in other than federally inspected plants, providing the sanitary requirements and the inspection requirements of the local municipality, State, or county, meet the same criteria as the Federal inspection service.

FINANCING FEDERAL MEAT-GRADING WORK

Mr. WHITTEN. In connection with that, is that service by the Department of Agriculture self-supporting?

Mr. LENNARTSON. The meat-grading service is 100 percent self-supporting.

Mr. WHITTEN. So the payment is made by the federally inspected plant or the other plant that meets your requirements?

Mr. LENNARTSON. The payment is made by the individual requesting the service, that is right.

Mr. WHITTEN. In other words, you don't require it, but it is at request?

Mr. LENNARTSON. Absolutely. It is purely a voluntary request insofar as the Department is concerned.

Mr. WHITTEN. As it now stands there is no way for you to move into the meat-type hog with the present policies and laws, except on requests, which means that the industry must meet this need?

Mr. LENNARTSON. That is correct, sir.

PRACTICALITY OF MANDATORY REQUIREMENT FOR GRADING PORK

Mr. WHITTEN. Now, is there any way where, if a given plant handles beef and pork, that you might require the service for pork production, or they wouldn't get it for the beef? Would that give you a lever with which to push this thing forward?

Mr. LENNARTSON. That would be making one of the grading services mandatory and that could only be done through legislation.

Mr. WHITTEN. Well, I wouldn't say that there would have to be legislation. I probably agree with you that it should be.

Mr. LENNARTSON. What I am referring to is the provision in the Agricultural Marketing Act of 1946 (sec. 203h) "* * * that no person shall be required to use the service authorized by this subsection."

I am positive, Mr. Chairman, if such a law were passed and we were to propose a regulation of that nature, there would be so much resistance to it that the Department just wouldn't——

Mr. WHITTEN. You are talking about practical matters. I was talking about legal matters. I don't know that it would be feasible. I am not trying to take that position. I am trying to see what the Congress might do to give a little impetus to what looks to us to be sound progress with regard to pork.

Mr. LENNARTSON. I don't know of a single request we have had for a grading service on, for instance, meat-type hogs to be performed by the Department. The market agencies are using the standards that have been developed and so on, but I don't know of any requests we have had for official grading at that level.

I think, Mr. Chairman, that this would be one that the farm organizations and producer groups would be concerned with—and they are doing this. They are working very, very vigorously with the packing industry—in an attempt to encourage them to go into this meat-type hog.

They recognize, very frankly, that the premiums are not now adequate to stimulate the expansion that frankly every one of them would like to see.

Mr. WHITTEN. I think they are missing, frankly, a large market, because there are so many families like mine that eat very little pork. It is not the cost, but paying for a great deal of fat that you don't desire.

Secondly, when the hog has all that fat, it tends to show up in the meaty portions. So, both ways you receive a less desirable product.

Mr. LENNARTSON. The hog industry is very, very much concerned about the trend on the consumption of pork.

AVAILABILITY OF GRADING SERVICE FOR PORK

Mr. WHITTEN. The minute the meat industry wishes to begin to grade pork, you stand ready to recommend that pork be treated in the same way, from the standpoint of what service you would render, as you now give to beef?

Mr. LENNARTSON. We have the standards; we are available to render the service when requested.

Mr. WELLS. We have standards for live hogs——

Mr. WHITTEN. Live hogs?

Mr. LENNARTSON. Yes; and for hog carcasses. We are in the process of developing standards for pork cuts, such as the loin, ham, or the shoulder. They have not been promulgated.

But we do have the standards on the live hog and carcasses. We stand ready to render the service.

Mr. WHITTEN. If you have it on the live hog but you don't carry it forward to the actual grading of the cuts, aren't you misleading the consumer? If you can't carry the grading out to where the consumer can see it, you haven't accomplished anything.

Mr. LENNARTSON. I will say with all honesty, up until the last year, there has been no interest on the part of industry generally in developing the Federal specifications for cuts of pork.

Now, we are working on it, and will develop standards on them, but as I say, they have not been promulgated at this point.

Now, while it is true, Mr. Marshall, that in South St. Paul and in most of the other terminal markets, there isn't too much activity on meat-type hogs, this type of hog is recognized in the direct selling which is so extensive in the Ohio-Indiana area. The development in selling on the basis of the meat-type hog, as a meat-type hog, has advanced considerably there, because you have producer cooperative associations there who are intensely interested in this problem. They are making good progress.

CANADIAN HOG MARKETING PRACTICES

Mr. MARSHALL. Are you familiar with what Canada does in the hog market?

Mr. LENNARTSON. I am not. Maybe Mr. Wells is.

Mr. MARSHALL. They grade their hogs on a live-weight basis, do they?

Mr. WELLS. The Canadian hogs are purchased on carcass grade and weight basis. In other words, the final purchase price of the hog is determined from the grading of the carcass. We, incidentally, have had some research work on the problems of the carcass grade and weight selling in the United States, in cooperation with the north central colleges.

Mr. MARSHALL. Because they have been rather particular in their grading is part of the reason that the Canadian hog has been given such wide recognition as a meat-type hog, is it not?

Mr. LENNARTSON. They were faced with quite a different situation. They export a lot of hogs, they are in competition with Denmark, and so on, who, many, many years ago paid a lot of attention to the type of hogs they were selling.

Mr. MARSHALL. My father and others sold breeding stock to Canada 50 years ago. At that time, their breed of hogs was the Yorkshire hog, which was bred from the standpoint of a meat-type hog. The Canadians were very particular about the purchase of their breeding stock and also their method of marketing, and because of the fact that they did that, they built up a reputation for Canadian meat-type hog, which has brought a premium on the market.

All during this 50 years, to my knowledge, with the exception of very few minor instances, the packing industry in our country, particularly in South St. Paul, has not given a premium to the farmer who has produced the meat-type hog, and for that reason our producers of hogs have been at a great disadvantage because we have been unable to assure to the consumer of this country that we are able to supply upon the dinner tables a satisfactory type of pork which appeals to their taste.

It would seem that since we have been faced with this problem for 50 years, that we ought to be doing something so that we ought not to live with that problem for another 50 years.

Mr. ANDERSEN. Will you yield?

Mr. MARSHALL. Yes.

SHIFT AWAY FROM MEAT-TYPE HOG IN MINNESOTA BECAUSE OF LACK OF PRICE CONSIDERATIONS

Mr. ANDERSEN. You will recall back in the late teens and early twenties, there were quite a few herds of Yorkshires and Tamworths

through our area. As you have said, even though quite a few of those hogs were marketed in the South St. Paul market, there was so little consideration given to the producers of that type hog that they simply found that it was better to produce China's, Chester White's, and such, on which they could put the pork, and lard mostly, more readily, and thus make more profits.

I recall I was one of those who shifted from the Yorkshires to the Chester White's, then later to the Poland China's in the early thirties.

You are absolutely right when you say that the packers did nothing whatsoever during that length of time to encourage the production of the forerunner of the meat hog of today. And those forerunners were the Yorkshires and Tamworths.

Mr. WHITTEN. Some years ago I spoke to the American Meat Institute in Chicago, at which time I had a chance to visit with many leaders in the meatpacking industry. They had a serious problem which continues today with regard to the fatty products of hogs. A Commodity Credit Corporation study will show some of the problems we have had in fats, because of the little desire by the American people for fats.

Yet the packer, since he pays the same per pound to the farmer, has to sell the meaty part at a much higher price to the consumer to offset the loss on the fat, which there was no occasion for the farmer in the first place to have produced. This could be corrected to a great degree, if the industry would be willing to pay for the meaty parts, which is what the consumer wants.

Now, apparently, we are bucking an age-old type of operation. But we do need to get a handhold on this to expedite a change.

It would be to the interest of the farmer, the consumer and the meat industry itself, in view of the fact that they are having trouble selling their lard.

OPERATION AND EFFECT OF SECTION 32 PROGRAM ON PORK

Mr. ANDERSEN. While we are on that subject, a year ago last fall we were in difficulty with the price of hogs in our area, in fact nationwide. I think South St. Paul went to about $10.50. I suggested at the time and I notice Mr. Marshall did too, and others, we suggested very strongly to the Department of Agriculture that in their support program they pay a premium, that they utilize the announced $85 million program to pay a premium of so much per hog to a producer for bringing in a hog which weighed beneath 200 pounds. As we look back we can see that quite a sum of money was spent on that particular program that fall. Instead of the $85 million, as I recall, the program was later increased to over $100 million. Do you recall the total expenditure under the program? I wish you would put the figure in the record at this point.

Mr. LENNARTSON. I think it was about the full amount.

Mr. ANDERSEN. The point is, I think the approach taken then was absolutely wrong. That in the first place the main benefits of the expenditure of that money went into the hands of the packers, and that has been proven by the profit reports that these same packers put out for that particular year, instead of utilizing a means which would have gone a long way toward backing up what Mr. Whitten has opened up here, and that is the Department, itself, could have offered

the incentive to lightweight-hog producers right in that particular period by paying $5 per hog, for example, to producers who would sell them averaging not over 195 pounds in weight. It was a wonderful opportunity, Mr. Marshall, to do something along the lines that Mr. Whitten has suggested.

Mr. MARSHALL. If my colleague would yield to me.

Mr. ANDERSEN. Glad to.

Mr. MARSHALL. I would like to have placed in the record the amount of that money which went for the purchase of lard and which went for other types of meat.

Mr. LENNARTSON. We can do that.

(The information requested follows:)

Section 32 funds used for purchase of lard and other pork products, fiscal year 1956

Lard	$6,033,241
Canned and frozen pork	95,215,482
Total	101,248,723

Mr. MARSHALL. Because I am under the impression that actually in the purchase of lard the Department added an additional incentive to a lard-type hog in their handling of it. That was a drug on the market.

Mr. LENNARTSON. We will insert those figures in the record.

Mr. ANDERSEN. It is easy to look back, gentlemen, and criticize, but this is one time that I am on record as advising the Secretary of Agriculture about the middle of September a year before last that if he did put this $85 million program into effect, to please utilize that money in giving direct to the producer—the packers can take care of themselves—but give to the producer a $5 bill is what I suggested for bringing in hogs weighing beneath 200 pounds. Instead of that it was spent in other ways and I am sure that when you consider the number of hogs at $5 a throw, $85 million, that would be about 17 million hogs that it could have offered a bonus to, to the producer himself, for bringing that said hog in weighing beneath 200 pounds in weight. With the later increase in program it would have been still more. And the huge quantity of lard would have been done away with in the first place. But I was very disappointed. The Secretary just kind of brushed it off and said that this adviser group did not consider it the proper thing to do. I am beginning to wonder who embodies some of these adviser groups who are the advisers to our Secretary of Agriculture. I want, Mr. Chairman, when we get Mr. Benson on the stand later on, I want to find out something further about these so-called adviser groups who help him dictate policy in some of these support programs.

Mr. WHITTEN. In that connection I might point out that in the report which was released today on my visit to Russia, we made note of some of the changes that the Russians have made in their agriculture as a result of their people visiting the United States. One of the points which is borne out by the records in Russia is that they have made a reduction in the market weight of pigs from 180 kilograms or more to 80 to 100 kilograms. We find that the Russians have gone back and profited from their visit by making some worthwhile changes in their own situation.

Are there any further questions on this particular part?

Mr. MARSHALL. I have one other comment, Mr. Chairman. At the hearing that we held out at Morris, Minn., testimony was presented to us from producers who indicated to us that giving a recognition to a meat-type hog, giving full credit to the value of the meat-type hog on the market, would be a great boon to increasing the production of a meat-type hog on the farm.

Mr. ANDERSEN. Mr. Marshall, you will recall that in those two hearings which we held respectively in Sioux Falls and in Morris last September, there were brought up several times this very point that I have discussed about how much better it would have been to utilize the money paid to help support the market, in this instance $85 million, in the line of offering incentives to the farmer, to the producer himself, for bringing in light weight hogs. Was that not, Mr. Marshall the general consensus among the farmers who took part in those hearings?

Mr. MARSHALL. A meat type hog.

Mr. ANDERSEN. Yes, that is correct.

Mr. WHITTEN. Proceed, then, to the next item of increase.

GRAIN STANDARDS ACT

Mr. LENNARTSON. All right. The next item is a request of $92,500 to again expand and improve the supervision under the United States Grain Standards Act. This divides into two segments. The first item, $47,185, is to carry out the expanded regulatory aspects of Public Law 861 which was passed in the last session of Congress, which makes it a misdemeanor to present false samples or to illegally load cars, or as we call it slug cars, with foreign material or grain of lower qualities.

That law was placed on the books by virtue of the fact that in the postwar period there apparently had been under way a good deal of improper sampling and improper loading of cars and cargoes of wheat to the detriment of the farmers, in both the domestic and foreign markets. Under the new law it will now be a criminal offense to slug cars of wheat or improperly load them in a way to hide the wheats or grains of lower quality or to furnish illegal samples of the carload.

PROPOSED CHANGES IN GRAIN GRADING

Mr. ANDERSEN. Mr. Lennartson, on this point—this by the way, Mr. Chairman, is a question that I have had pending—I have considerable correspondence these days relative to this proposed change in grain grading.

Now, I am responding to those people along the line that in my opinion the need is not so much for the change in grade or grade specifications as it is for having sufficient inspectors to do the job that the Department of Agriculture has got to do. I think right here is where the answer to this question is. You people have got the job in the Department to make sure that the right kind of grain is shipped out. You watch it all along the line, and unless you have sufficient inspectors to do the job, why occasionally, a cargo of the wrong kind of wheat will be shipped abroad and hurt our export market. We all want to maintain high quality and we want to be sure any changes are in that direction.

Mr. Chairman, we are faced with a new situation that I think there is due to be a new announcement as of March 1 in the Register, is

there not, Mr. Lennartson, in connection with the proposed new grades?

Mr. LENNARTSON. Certainly not later than March 15.

Mr. ANDERSEN. I might say I have written to the Secretary requesting that he put that off until we have an opportunity to go into that subject here in this subcommittee, because it is my understanding, for example, that in the grading process the amount of foreign material in No. 1 wheat would be reduced from 1 percent to one-half percent.

If that is the case, I have handled enough grain in my time to know it would be very difficult to determine the fact whether there is one-half percent or 1 percent in a given carload or truck of wheat. And to me it will simply mean that a lot of farmers will bring wheat onto the market—I am talking about any grains—and they will instead of getting the grade they should normally have received, the top grade, they may have to take secondary position because of something that is very technical, something that perhaps cannot be proven.

I think, Mr. Chairman, that subject warrants our asking the Secretary—which I personally have done—to go quite slowly until we know what effect it will have on prices the farmers receive for their products. That is the main thing that interests me.

Mr. WHITTEN. I think that would be another subject that we might go into with the Secretary. I have requested the Secretary to come before this committee at his earliest convenience in connection with the announced soil bank program and lower price supports.

Mr. ANDERSEN. I hope that that will be done, because this is serious to my grain producers. If we permit this change in grades to go into effect, it might not have the effect that the Secretary and the Department and all of us hope it will have, and that is to improve shipments for export abroad so as to raise the quality of our grains. I am afraid it may simply take about 2 cents a bushel off the value of about every bushel of grain handled. I am referring to the Minneapolis terminal area. I am just fearful of that, because of making it impossible, as I have stated before, to determine—well, in the first place they lower the quantity of outside material which can be in a bushel of wheat from 1 percent to one-half percent. That is going to just, in itself, lower the grade of a good many millions of bushels of grains going into the terminals. I am concerned about that. There are a lot of good people writing me who seem to be confused about this whole situation. They say we want to have good clean grain, free from impurities and so forth—they forget, Mr. Lennartson and Mr. Wells, that sanitation is the responsibility of the Pure Food and Drug part of our executive establishment.

And I don't think we should try to cure that end by doing something which is going to harm the price level to agriculture, because that price level is getting bad enough as it is, without harming it.

Mr. WHITTEN. If you will permit me to inject, I think we should go into this matter thoroughly. I have seen the same thing with regard to cotton. The Secretary and others have recommended that we change the base for loan rates on cotton to a longer staple. In other words, they propose to reduce the starting point, which has the effect of further reducing the support levels on cotton by some $5 a bale.

Mr. ANDERSEN. That is the whole thing, Mr. Chairman.

Mr. WHITTEN. It is the Secretary's argument, which I think is fallacious, that by reducing prices you reduce production. I can see that this change could be in line with the Secretary's avowed purpose of controlling production by reducing the price the farmer gets.

Mr. ANDERSEN. I wouldn't go so far as to accuse the Secretary of doing that deliberately, Mr. Chairman.

Mr. WHITTEN. I am saying that it could be that that would be the net effect of it. Since the Secretary is of the opinion, and I am sure very conscientiously so, that reductions in support levels would help bring production down, that might have something to do with this decision. I don't make my statement as a charge, but I can see some of the possibilities in connection with it.

Mr. HORAN. Mr. Chairman, may I comment on that?

Mr. WHITTEN. Yes.

ANTICIPATED CHANGES IN GRAIN STANDARDS

Mr. HORAN. I wonder if you could briefly indicate the 10 changes in grain standards and grading that are anticipated and the reasons for Mr. Whitlock's hearings and the reasons for, if they are instituted, the reasons for those 10 changes.

Mr. WHITTEN. We will be glad for you to put that in the record fully and discuss it as much as you will here. I would also like for you to show the effect on the support price that the farmer would get.

Mr. HORAN. Yes. And along that line who will pay for these and what effect it would have on the status quo pricewise.

Mr. LENNARTSON. I would like to make two comments with respect to this discussion.

Mr. ANDERSEN. Mr. Lennartson, your request here for additional money would mean that you feel that the problem we have been discussing can largely be approached through the proper implementation of the inspection service.

STRENGTHENING SUPERVISION OF GRAIN INSPECTION

Mr. LENNARTSON. That is a very important approach to the problem, one this committee has been frankly very considerate of and quite helpful to us in the past in granting us additional funds. We still feel that we are doing an inadequate job of supervision, and a portion of this increase, $45,315, will be used to open up two new offices in order to give adequate supervision in some increasingly important marketing centers, around Amarillo, Tex., and Lincoln, Nebr. I must add that the additional funds which were granted to us in the past 2 years have done much in making it possible for us to give more adequate supervision. Efficiencies in operations and the type of service being rendered have improved substantially as a result.

Mr. ANDERSEN. I am perfectly willing, Mr. Lennartson, to approve whatever money might be necessary to do a good job of inspection and supervision. My only fear in connection with this is that in this particular instance perhaps the cure will be worse than the disease. That perhaps the farmers in the long run will actually incur a loss in what they obtain for their product, even though the Department perhaps is approaching it from the viewpoint that it is going to help agriculture. I certainly hope that nothing is done to take away from

the farmer the comparatively few cents of margin that he has today in which to operate.

Mr. LENNARTSON. You are speaking now, of course, with respect to the proposed modifications of the wheat standards?

Mr. ANDERSEN. That is right.

NEED FOR REVISING WHEAT STANDARDS

Mr. WHITTEN. I might read into the record at this point a statement by the committee investigators who looked into this problem during the fall. It reads as follows:

> It appears to the staff that CCC's discount policy will reduce the amount of wheat of undesirable varieties which will be directly taken over by the Government under the loan program.

That would strike at the point that I was raising earlier. Quoting further:

> This discount policy alone, however, will not preclude the trade from taking indirect advantage of the support program by blending undesirable varieties of wheat that receives full-price support. The existing grain standards permit certain tolerances of wheat of other classes. To prevent the undesirable varieties from entering domestic and export channels it will be necessary to revise and tighten the United States grain standards with respect to the percentage of wheat of other classes that may be blended with wheat of desirable qualities.

Now, in view of that will your changes limit the blending, or are you directing it at the first instance where the farmer may be in for support?

Mr. LENNARTSON. One of the proposals is directly aimed at that precise problem, of tightening up the standards so as to not permit as much wheat of other types and varieties to be blended into any particular grade.

Mr. WELLS. May we go off the record, Mr. Whitten?

Mr. WHITTEN. Yes.

(Discussion off the record.)

EFFECT OF STANDARDS REVISIONS ON PRICES TO PRODUCERS AND ON EXPORTS

Mr. HORAN. On the record. I do want to say that anything that we do with grain standards at this time would adversely affect my summer-fallow wheatgrowers out in my area. They are already, by usage, reducing their acreage by half, you know. They only farm half their ranch at one time. Now, we place acreage allotments against them and they certainly haven't any margin that we can fool around with anything that might adversely affect their economics at this point. It could be just the straw that broke the camel's back in many instances.

Mr. WHITTEN. It appears that the American cotton exporters sell at the highest grade that they can get by with, independent of price supports or your standards. I am wondering if the same thing doesn't prevail in connection with wheat. Quite definitely they are entitled to look at world standards insofar as selling to foreign countries. But for cotton, we offer it in world trade at a higher grade than we rate it at. They say that this has been customary throughout history. I am wondering if that same thing isn't true in connection with wheat. Whatever your standards are, it will be offered on a contract basis for whatever grade that has been customary in world trade.

I would like for that information to be in the record at this point. Also I would like the information as to whether this would in any way affect the support levels to the American farmer.

Mr. LENNARTSON. Mr. Whitten, we have assembled substantial data on the impact of these proposed changes which have been made by industry on the producer as such. If you feel it appropriate, we would be very happy to place in the record the pertinent tables reflecting what impact these modifications might have.

Mr. WHITTEN. We will be glad to have it. As I pointed out last year, the price support on cotton was reduced from 90 to 82½ percent. It costs the American cotton farmers hundreds of millions of dollars. Yet at this point it would indicate that the consumer didn't get one dime out of it, but the difference went to those people between the farmer and the consumer.

I deplore to note that this year the Secretary announced a further cut of $6 a bale which will cut that many more millions off the income of the cotton farmer. Once again it is my belief that this $6 will not show up in the price the consumer pays, but will add to the margin of profits of somebody in between the farmer and the consumer.

If you are not careful you will reduce the price of wheat that the farmer gets, but the exporter in the final analysis will sell whatever he offers in export at the class that he and the purchaser may agree upon, which will be independent of any standards that you have within the United States. I am told in the cotton industry that it is sold on a grade that might be agreed upon by the seller and the buyer in world trade, independent of, and actually above the grade and class that the United States Government may give it. I can easily see that that danger might exist in these changes in which you can see much benefit.

The question would be whether it will retain the good reputation that our grains have enjoyed in world trade. Now, again one of the reasons that we have built up some feeling abroad as to the grades and qualities of our agricultural commodities is that a lot of them have been exported under Public Law 480, and various foreign aid programs.

We haven't taken the same care where we were giving it to them, to maintain the grade and class, as we might be if it had been sold through normal channels for dollars. Please include the information in the record here so that when we have the Secretary we can go into it more thoroughly.

(The information referred to follows:)

PROPOSED CHANGES IN THE WHEAT STANDARDS

The last major revision of the wheat standards was made effective July 1, 1934. Only three minor changes have been made in these standards since 1934. The last one of these changes was made effective August 2, 1954, and it was merely a change in the method of expressing smut dockage.

The current need for a revision of the official standards for wheat has been emphasized by various advisory boards and committees and by agricultural trade missions. Requests for a revision of the standards also have been made by national organizations of producers, handlers, and processors of wheat. All suggestions have been directed to changes in the standards that will reflect improvement in the quality of wheat as marketed.

The Department arranged a conference in September 1955 for the purpose of determining more specifically what changes, if any, should be made in the official wheat standards to make them more acceptable under present-day production and marketing conditions. This conference was attended by representatives of national associations of growers, shippers, processors, and others interested in the production, marketing, and utilization of wheat. Specific changes were recom-

mended by this group, all aimed at improvement in the quality of United States wheat in domestic and foreign commerce. Following the conference, studies were conducted by the Department to determine the effect of the recommended changes on the practical application of the standards and the marketing of the crop. These studies indicated that most of the recommended changes, if adopted, would have very little effect upon the grading of wheat as it is delivered by the producers and therefore should have little effect on the prices he receives. As a result, the following changes were offered for public consideration:

1. Change the minimum and maximum limits of moisture in the special grade Tough Wheat as follows:

Class	Present standards (percent)	Proposed change (percent)
Hard Red Winter, Soft Red Winter, and White.	More than 14.0 but not more than 15.5.	More than 13.5 but not more than 16.0.
Hard Red Spring, Durum, and Red Durum.	More than 14.5 but not more than 16.0.	More than 13.5 but not more than 16.0.

2. Provide a special grade of "low moisture wheat" for wheat which contains not more than 10 percent of moisture.

3. Eliminate the numerical grading factor "matter except other grains" and change the maximum limits of total foreign material as follows:

Grade No.	Present standards	Proposed change
	Percent	*Percent*
1	1.0	0.5
2	2.0	1.0
3	3.0	2.0
4	5.0	3.0
5	7.0	5.0

4. Change the maximum limits of shrunken and broken kernels in grades No. 1, 2, and 3 from 7.0, 7.0, and 10.0 percent to 3.0, 5.0, and 8.0 percent, respectively. The alternative proposal is to change these limits to 5.0, 5.0, 8.0 percent, respectively.

5. Change the maximum limits of wheats of other classes in grades Nos. 1, 2, and 3, from 5.0, 10.0, and 10.0 percent to 5.0, 5.0, and 10.0 percent, respectively. The alternative proposal is to change these limits to 3.0, 5.0, and 10.0 percent, respectively.

6. Change the expression of assessable dockage in terms of whole percents to in terms of one-half percent. Under the present standards, fractions of less than 1 percent dockage are disregarded. Under the proposal, fractions of less than one-half percent dockage would be disregarded.

7. Change the minimum limit for dark, hard, and vitreous kernels in the subclass Hard Winter wheat from "more than 25 percent" to "more than 40 percent." This would also mean that such limits for the subclass Yellow Hard Winter wheat would be increased from "not more than 25 percent" to "not more than 40 percent."

8. Eliminate the designation of smutty wheat in terms of "smut dockage" and designate all smutty wheat as "light smutty," "medium smutty" or "heavy smutty" based upon the estimate of the amount of smut present in the wheat.

9. Incorporate in the definition for "sample grade" the words "or which is contaminated by animal filth."

10. Eliminate "Amber Mixed Durum" and "Mixed Durum" as a part of the grade designation in the class "Mixed Wheat." Such wheat would be designated simply as "Mixed Wheat" and the component parts of the mixture would be shown as a part of the grade designation.

11. Incorporate other changes of minor importance. These are changes that are considered to be of no material significance and are proposed for simplification and clarification of the standards.

Nine tables, showing summaries of grading data on wheat collected by the Department, follow:

The percentage of carlots of wheat by classes received and inspected at interior markets by grades under the present standards:

TABLE 1.—*Inspected wheat receipts average 6-year period (1949–54)*

Grade	HRS	HRW	SRW	White	Durum	All classes
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
1	[1] 58	55	20	48	27	50
2	17	29	47	37	28	30
3	12	9	24	11	15	11
4	6	3	5	2	7	4
5	3	2	1	1	7	2
Sample grade	4	2	3	1	16	3

[1] Includes No. 1 Heavy.

NOTE.—Data based on 3,965,635 lots of wheat.

The percentage of the 1955 crop of wheat receipts by classes which graded No. 1, and the percentage that graded below No. 1 on each grade determining factor, such as test weight, total foreign material, etc., under the present standards:

TABLE 2.—*Analysis of wheat grade determining factors (1955 crop)*

Class	Graded No. 1	Graded below No. 1 account of—							
		Test weight per bushel	Total foreign material	MEOG	Shrunken and broken	Other classes	Total damage	Heat damage	Sample grade factors
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
HRS [1]	60.5	33.7	2.5	1.1	Trace	0.8	0.4	0.1	0.9
HRW	83.5	11.5	2.0	----------	.1	.1	2.2	Trace	.6
SRW	31.4	33.3	1.2	----------	----------	1.2	26.5	----------	6.4
White	53.3	42.8	.5	1.2	Trace	.3	1.2	Trace	.7

[1] Including No. 1 heavy.

NOTE.—Data based on 10,381 lots of wheat.

The percentage of wheat by classes received and inspected at interior markets which contained 1 percent or more dockage, compared with the percentage of such lots which would have been assessed one-half percent or more dockage:

TABLE 3.—*Dockage in wheat, 1955 and 1956 crops*

Class	Certificates showing dockage on basis of—	
	1.0 percent	0.5 percent
	Percent	*Percent*
HRS	74	97
HRW	16	70
SRW	5	29
White	24	55

NOTE.—Data based on 3,406 lots of wheat.

The percentage of wheat by classes received and inspected at interior markets which graded "tough," on the basis of the present minimum moisture limits, as shown, the percentage that would have graded tough if the limit was 1 percent below the present minimum, and the percentage that would have graded tough with a uniform minimum of 13.5 percent moisture. Also the percentage that contained 10 percent or less moisture:

TABLE 4.—*Moisture in wheat, 1953, 1954, and 1955 crop years*

Class	Special grade Tough				Proposed special grade Low-Moisture (maximum 10.0 percent moisture)
	Present minimum moisture limit—more than—	Percent grading Tough			
		Present basis	1 percent below present minimum basis	More than 13.5 percent basis	
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
HRS	14.5	0.4	4.7	4.7	4.2
HRW	14.0	2.8	11.4	6.2	13.9
SRW	14.0	7.8	39.1	21.8	2.2
White	14.0	.9	2.9	1.7	54.2
Durum	14.5	Trace	.7	.7	11.1

NOTE.—Data based on 227,759 lots of wheat.

The percentage of wheat, by classes, received and inspected at interior markets, which graded No. 1 heavy, No. 1, No. 2, and No. 3 respectively, on the factor "Shrunken and broken kernels" on the basis of the present limits as stated, compared with the proposed standards:

TABLE 5.—*Shrunken and broken kernels*

[Crop years 1955 and 1956]

PRESENT STANDARDS

Grade	Shrunken and broken kernels allowed	Samples in the grade			
		HRS	HRW	SRW	White
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
1 Heavy	7	99			
1	7	99			
2	10	100			
1	7		97	100	100
2	7		97	100	100
3	10		100	100	100

PROPOSED STANDARDS

1 [1]	3 or 5	69	66	100	98
		95	93	100	100
2	5	95	93	100	100
3	8	100	99	100	100

[1] Includes the grade No. 1 Heavy in the class Hard Red Spring wheat.

NOTE.—Data based on 3,461 lots of wheat.

The percentage of carlot receipts of wheat, by classes, inspected at interior markets which graded No. 1, No. 2, and No. 3, respectively, on the basis of the present limits of total foreign material compared with the proposed standards:

TABLE 6.—*Total foreign material*

[1955 and 1956 crops]

PRESENT STANDARDS

Grade	Total foreign material allowed	Samples falling into the grade			
		HRS	HRW	SRW	White
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
1 [1]	1	92	97	98	95
2	2	98	99	100	99
3	3	99	100	100	100

PROPOSED STANDARDS

1 [1]	0.5	67	86	94	89
2	1.0	92	97	98	95
3	2.0	98	99	100	100

[1] Includes the grade No. 1 Heavy in the class Hard Red Spring wheat.

NOTE.—Based on 3,406 lots of wheat.

The percentage of wheat, by classes, received and inspected at interior markets, which graded No. 1, No. 2, and No. 3, respectively, on the basis of the present limits of "Wheats of other classes" as stated, compared with the proposed standards:

TABLE 7.—*Wheats of other classes*

[Crop years 1955 and 1956]

PRESENT STANDARDS

Grade	Wheats of other classes allowed	Samples falling into the grade			
		HRS	HRW	SRW	White
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
1 [1]	5	98	96	93	97
2	10	100	100	100	100
3	10	100	100	100	100

PROPOSED STANDARDS

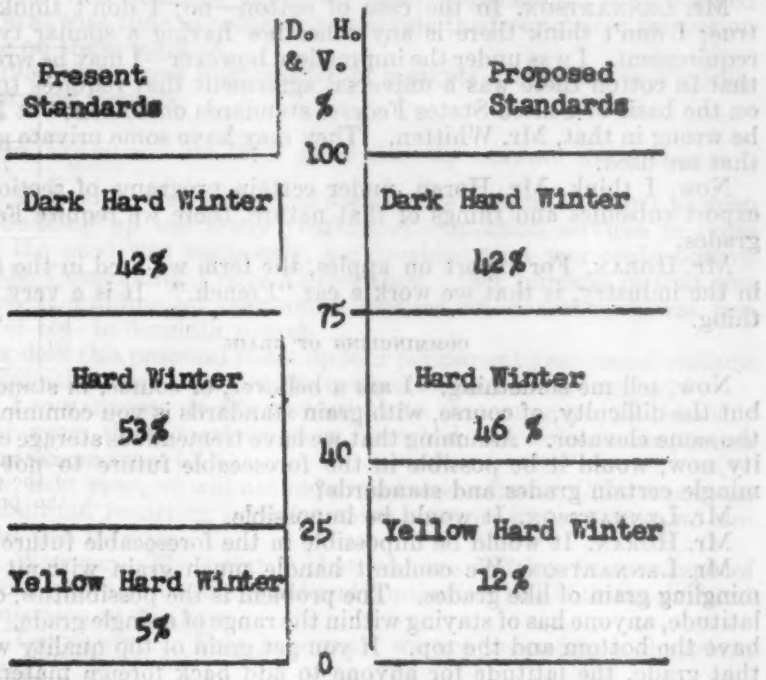
1 [1]	3 or 5	95	94	89	94
	5	98	96	93	97
2	5	98	96	93	97
3	10	100	100	100	100

[1] Includes the grade No. 1 Heavy in the class Hard Red Spring wheat.

NOTE.—Data based on 3,029 lots of wheat.

The percentage of Hard Red Winter wheat, received and inspected at interior markets, which met the requirements of the subclasses Dark Hard Winter, Hard Winter, and Yellow Hard Winter, respectively, under the present limits of Dark Hard and vitreous kernels (D. H. and V.), as stated, compared with the proposed standards:

TABLE 8.—*Hard Red Winter wheat subclasses*



NOTE.—Data on percentage of wheat in each subclass based on 1,337 lots of wheat of the 1955 and 1956 crops.

Comparison of lots of wheat inspected for export under the present standards with the proposed standards, including (1) the percentage that contained assessable dockage; (2) the percentage graded No. 2 or better on each of the factors total foreign material, shrunken and broken kernels, and wheats of other classes; (3) the percentage that graded "tough"; and (4) the percentage of Hard Red Winter wheat designated Dark Hard Winter, Hard Winter, and Yellow Hard Winter, respectively:

TABLE 9.—*Export shipments of wheat*

Factor	Number of lots	Present standards (percent)	Proposed standards (percent)
All classes:			
Dockage	308	[1] 8	[1] 59
Foreign material	308	[2] 99	[2] 89
Shrunken and broken kernels	308	[2] 98	[2] 93
Wheats of other classes	308	[2] 100	[2] 81
Moisture	166	[3] 1	[3] 8
Hard Red Winter wheat:			
Texture	131		
Dark Hard Winter		19	19
Hard Winter		81	60
Yellow Hard Winter		0	21

[1] Percent of samples which would have "Dockage" notation.
[2] Percent of samples which would grade No. 2 or better.
[3] Percent of samples which would grade "Tough."

Mr. LENNARTSON. All grain in export is sold on the basis of Federal standards, so we would have the protection of the Grain Standards Act, which requires that all such sales be inspected and graded.

Mr. WHITTEN. Is that true with other commodities, other than wheat?

Mr. LENNARTSON. In the case of cotton—no; I don't think it is true; I don't think there is any other law having a similar type of requirement. I was under the impression, however—I may be wrong—that in cotton there was a universal agreement that requires trading on the basis of United States Federal standards on cotton; but I may be wrong in that, Mr. Whitten. They may have some private grades that are used.

Now, I think, Mr. Horan, under certain programs of section 32, export subsidies and things of that nature, there we require Federal grades.

Mr. HORAN. For export on apples, the term we used in the trade, in the industry, is that we work a car "French." It is a very strict thing.

COMMINGLING OF GRAIN

Now, tell me something. I am a believer, of course, in standards, but the difficulty, of course, with grain standards is you commingle in the same elevator. Assuming that we have tremendous storage capacity now, would it be possible in the foreseeable future to not commingle certain grades and standards?

Mr. LENNARTSON. It would be impossible.

Mr. HORAN. It would be impossible in the foreseeable future?

Mr. LENNARTSON. We couldn't handle much grain without commingling grain of like grades. The problem is the possibilities, or the latitude, anyone has of staying within the range of a single grade. You have the bottom and the top. If you get grain of top quality within that grade, the latitude for anyone to add back foreign material or grains of other types and still stay within the grade as such is greater. Lowering the quality to the minimum limits of that grade is the problem that is concerning the wheat producers, generally.

Mr. HORAN. I think Mr. Wells wanted to comment on that. Did Mr. Lennartson answer that——

Mr. WELLS. I felt that the statement that you couldn't handle grain without commingling needs some modification. No one commingles much high quality, high protein wheat. It is a question really of how much commingling you must do, and to what extent you can keep grades separate. I don't Mr. Horan, see us, in wheats and grains going into identity-preserved storage where each particular lot is handled separately; but there is now and must continue to be ways by which you do keep certain standard grades and certain premium grades apart from each other.

Mr. LENNARTSON. What you were referring to, you commingle grades of like quality.

We might proceed to the next items of increase.

INCREASE FOR INSPECTION OF TOBACCO AUCTION MARKETS

Mr. LENNARTSON. There is a $42,100 item to extend the inspection services on a minimum basis to 4 newly designated tobacco auction markets.

In line with the policy adopted last year, we will come forward each year requesting appropriated funds to provide these services on a permanent appropriated basis when the markets have been designated for free inspection. You will recall last year that there were four new markets that had been designated. We obtained $40,000 at that time to continue to provide the free tobacco inspection service on those markets.

In 1956 there were four additional markets designated in Virginia, Florida, and Georgia.

POLICY REGARDING ADVANCES FROM CCC FOR GRADING AND CLASSING

Mr. WHITTEN. You will recall some years ago, in an effort to keep from building up too many year-round inspection services in areas where the need was temporary, we provided that you could borrow from the Commodity Credit Corporation. Our purpose in that was to prevent building up year-round services where the work was perhaps for a 4- to 6-month period.

How does this proposal to set up four permanent year-round stations enter into the prior policy of the committee and the Congress?

Mr. LENNARTSON. It fits perfectly into that program, in that this current year, these markets were furnished free tobacco inspection from advances from CCC.

Now, next year, we will not require advances from CCC to maintain the minimum recurring base for these services in the event we are granted this increase.

Mr. WHITTEN. The point is that you are shifting from a type of financing where you will expand and contract in line with the demand for inspection at the area.

Mr. LENNARTSON. That is correct; we are proposing a change in financing.

Mr. WHITTEN. Under the old practice, you could probably use half this money, whereas under the present practice we would once again be getting into year-round stations, whether the workload justified it or not.

Mr. LENNARTSON. These inspectors will be placed here only during the marketing season. It is still a temporary service operation. The only difference here is that rather than seek this advance from CCC every year, we put it on a permanent basis. In the event these markets fold up or the producers—which is unlikely—vote the Federal system out, why, we would dispense with the employees.

Mr. WHITTEN. It is easier to curtail when you are borrowing from CCC than when you have set it up permanently. That was the reason for this policy.

Do you object to continue borrowing this from CCC as you have in times past?

Mr. LENNARTSON. From the standpoint of the fiscal end of this, it doesn't make any difference governmentwise because the money would be coming out of the same pocket. It would be just a case of obtaining the money from a different source.

Mr. WHITTEN. You are varying as to the policy which this committee set up some years ago.

Mr. LENNARTSON. I don't understand how we would be doing that.

Mr. WHITTEN. The purpose of the committee was to set up this policy for borrowing from the Commodity Credit Corporation, and of

course restoring whatever you had to borrow, so that you would remain elastic.

You would expand to meet your need, as your needs increased. Our purpose in that was to get away from a fixed appropriation.

This looks to me like it is certainly contrary to the policy the committee has followed, unless there are other circumstances which might call for a change.

Mr. WELLS. May I comment on this briefly?

Mr. WHITTEN. Yes.

Mr. WELLS. I am in part responsible for this proposal.

I had understood the Commodity Credit advance payment arrangement was necessary, first, because of the varying volume of tobacco and varying workload from season to season, and, second, because of the way in which Commodity Credit may or may not pay for the grading service depending on whether they take over under the loan.

As I understand the Tobacco Inspection Act, a group of growers in a market who want tobacco inspection have the right to organize, and if they can themselves raise the money to pay for the inspection the first year, ask for and we supply them an inspector which they pay for. At the end of the first year, a referendum is held in the market area, and if two-thirds or more of the tobacco producers vote in favor of continuing tobacco grading, it is my understanding we are then obligated under the act to supply the service each year without charge to the producers, provided funds are available.

I had thought that we should from time to time call your attention to the fact that new markets had gone through this procedure and had been added to the tobacco grading service, rather than covering this recurring kind of an increase into the Commodity Credit advance without informing the committee of the fact that an additional or additional points had been added. As I understand the Tobacco Inspection Act, we are obligated to try to service all designated markets regardless of whether we inspect tobacco for Commodity Credit Corporation or not.

Mr. WHITTEN. Thank you for your explanation. However, I would point out that, whether you do it under one or the other, when you expand services into new areas, I think you are obligated to this committee——

Mr. WELLS. That is my point. I wanted to bring to the attention of the committee that there were additional areas going through this procedure, approving inspection under a referendum and then making it mandatory on us to try to find a way to do the job. I believe I am correct in saying that the amount of money in this budget for these markets is not necessarily the full amount that we are spending but the minimum amount which would be used there to have a service during the marketing season, assuming the workload is considerably less than it has been in some years.

Mr. LENNARTSON. The budget item averages $10,000 per market, which is the minimum. But as crops increase or shrink, why, there would be some variation in the additional funds needed.

ADDITIONAL EMPLOYMENT REQUIREMENTS

Mr. WHITTEN. We would like to know for the record, how many new people you expect to employ under this $188,000 increase item.

Mr. LENNARTSON. Under the inspection and grading increases, we will be required to employ an additional 27 man-years in relation to a base of 1,046 in 1957 under this item, but because of the proposed change in financing arrangement for tobacco all would not be new employees.

Mr. NATCHER. How many inspectors would be required for the particular markets that you just discussed?

Mr. HOLMAAS. These funds for tobacco inspection represent 16 positions. Based on about a 60 percent lapse because it is seasonal, it averages out at about 7 man-years which are a part of those currently financed from the CCC advance. Because it is seasonal and the volume in the crop would affect the amount additionally needed, the additional fluctuating costs would continue to be met by CCC advances. This is how it would tie in with the CCC financing arrangement.

Mr. NATCHER. As I understood, the $42,000 is not the exact amount required for these particular 4 markets, is that correct?

Mr. WELLS. The arrangement is, we asked for, in effect, a minimum amount, and it is my understanding this is a minimum amount for us to supply service in these particular markets.

Mr. LENNARTSON. Should they have a substantial increase in the tobacco crops around these areas, where it will require more men, we would go to CCC and get an advance, in order to provide the service. In a subsequent year, money is appropriated to reimburse CCC.

Mr. WHITTEN. You may proceed.

AIDING STATES IN LIVESTOCK GRADING PROGRAMS

Mr. LENNARTSON. There is one item under standardization activity, with respect to livestock, which ties in somewhat with the conversation we had on the use of Federal grades in selling live animals.

Over the years there has been an increasing demand for us to perform the service of going out with State extension people, marketing agencies and so on, to assist them in training people to buy livestock on the basis of Federal grades, that is, buy the live animals on the basis of Federal grades.

I think that is a coming thing in this country. There is going to be more and more of it as time goes on. We are requesting a $15,800 increase to add an additional technician to our standardization staff, who will spend the great bulk of his time in the field with producer groups, 4–H Clubs, State departments of agriculture, extension service people, instructing them in the techniques of grading animals on the basis of our Federal live grades.

WASHABLE OUTER GARMENTS FOR FOOD INSPECTORS AND GRADERS

Now, a final item is the $137,000 to furnish our food inspectors and graders who are required to wear them, the white frocks and washable outer garments needed in the performance of their duties in inspecting food products.

Heretofore, these individuals have been required to furnish their own garments. In keeping with the Departmental policy, being proposed for the Agricultural Research Service meat inspection people,

we are requesting that similar garments be furnished to the Agricultural Marketing Service food inspectors on these inspection and grading programs, who are required in their daily operations to wear these garments as a matter of sanitation.

Mr. NATCHER. Mr. Lennartson, up to this time they furnished their own garments?

Mr. LENNARTSON. Yes, they have had to furnish their own garments at their expense.

Mr. NATCHER. Was there any additional compensation to each employee for this particular matter?

Mr. LENNARTSON. No, sir.

LIVESTOCK MARKET NEWS AT EVANSVILLE

Mr. VURSELL. On the record.

Have you formed an opinion on how you will handle the livestock marketing service in Evansville and if you have come to an agreement, how you should handle it, will you give me some comment along that line?

Mr. LENNARTSON. Mr. Vursell, some time ago we arrived at the position that Evansville should be a jointly financed market news service with about half of the cost being furnished by the State of Indiana and with the Federal Government meeting the other half.

Within the last year, we have worked closely with the folks at Purdue on this matter of livestock market news in Indiana, and what we are attempting to do right now is to develop a joint program on a livestock market news service for the whole State.

It will involve a reporting service at Muncie, Ind., for which we are requesting an increase in this budget. It will involve a large market at Indianapolis. It will involve reporting of direct sales at country points, which Indiana is very much interested in, and is desirous of expanding.

As I say, we are attempting to develop a statewide program on a joint-financing basis at this time. We still feel, very frankly, despite the problems involved and the substantial amount of livestock that comes to the Evansville market from other States, that some sharing of the financial responsibility on the part of the State should be obtained, and I think by the time we get the whole program worked out we might be able to resolve the situation satisfactorily.

Mr. VURSELL. That is all, Mr. Chairman, I believe.

WASHABLE OUTER GARMENTS FOR INSPECTORS AND GRADERS

Mr. WHITTEN. How many inspectors would you provide uniforms to, and what would be the average cost per inspector?

Mr. LENNARTSON. I think Mr. Holmaas has those details. I don't know if he has them conveniently available. We could furnish them for the record, if not.

Mr. HOLMAAS. This is estimated for 1,950 employees, the average number of employees that would be involved. The type of the garment and the cost would vary by commodity.

For poultry, for example, where they use a wraparound type, it averages about $6 per garment. It is the same in the meat and dairy products. They also need a cap to go with that at an estimated cost of $1.

In the fruit-and-vegetable field, the custom is to wear a shirt-and-trouser combination. Also in certain circumstances they wear the coats and the caps.

The number needed per inspector varies in the different units. For example, poultry inspectors have to change more often.

Based on an average of different types and numbers of garments which suit the climate and custom in the section of the country and the commodity activity they are working in, and considering factors of turnover, losses, repair, et cetera, it is estimated the aggregate cost will average about $70 per inspector.

Mr. WHITTEN. Something like this crept into Federal legislation several years ago. It had to do with the so-called fringe-benefit law for civil-service workers. As I recall, it was limited to those employees where the uniform was required.

Is this a place where uniforms are required? Or is it a case of where, through experience, the workers have gradually tended to come to a certain type of wearing apparel and now you are just paying them a little extra pay because you are paying for it? Or are you limiting yourselves to those places where you require a special-type uniform?

Mr. LENNARTSON. These are required under these food-inspection-type activities from the standpoint of sanitation. They have always been required in years past.

Mr. HOLMAAS. This is not based on the "uniform allowance" requirements in the sense of having like uniforms across the country. It is based on the type of garment that is needed to protect the commodity, from the sanitary point of view.

Mr. WHITTEN. Do you have standards, though they may vary by regions?

Mr. LENNARTSON. Yes; each of the regulations under which these individuals operate specifies that they are to wear clean, suitable garments.

Mr. WHITTEN. You may proceed.

Mr. HORAN. Mr. Chairman, is it open to questions on any of these increases?

Mr. WHITTEN. I am not trying to preclude members from asking questions when they wish, but I do believe it would be well to hear Mr. Lennartson's description of it. He might answer some of the questions we might have asked.

Mr. LENNARTSON. I just have the regulatory activities on this portion of my testimony and then we can open it up for questions.

Mr. WHITTEN. All right. If that is agreeable.

REGULATORY ACTIVITIES

Mr. LENNARTSON. Moving into the broad field of regulatory activity, we are asking for an increase of $278,200 touching on 3 of these acts.

IMPORT PROVISIONS OF THE FEDERAL SEED ACT

The first is $48,050 to strengthen the administration of the import provisions of the Federal Seed Act. As a result of our grasslands type of farming and crop-control measures, there has naturally been a

tremendous demand for the grass seeds and other seeds. Much of this seed is imported into this country.

The act requires that all seed imported into the country must be certified under the act, and this certification is done primarily at the two laboratories, ports of entry, in New Brunswick, N. J., and in Minneapolis, Minn.

We have been receiving increasing complaints with respect to the delays in our certification, and I think rightfully so, because the workload has been such that the staff just hasn't been able to take care of it promptly.

So, we are asking for this increase to strengthen the staff at the laboratory at Minneapolis and the one at New Brunswick, N. J., as well as adding an additional man-year at the office at Beltsville for supervisory work and other activities associated with this type of import operation.

ADDITIONAL POSTING UNDER PACKERS AND STOCKYARDS ACT

Secondly, and very importantly, we are asking for $178,000 to provide for additional posting and supervisory activities under the Packers and Stockyards Act.

This is an extremely important act to the producers of livestock in this country. I should point out that from its inception, it has been the policy of the Department to inaugurate at the outset the aspects of this act which are closest to where the producer sells his livestock first. For that reason, we have aimed practically all of the funds and increases received in the past at the job of posting and supervising stockyards which are subject to the act.

Currently, we estimate there are some 750 to 800 yards, including the large terminal markets, that are subject to posting under the act. We have about half of those posted—that is, we did have about half of those posted up through last year. With the increase granted for this year through the action of this committee, we expect during this current year to post an additional 150 to 200 yards in the various States.

By the end of this fiscal year, we are hoping we will have something like 70 percent of the eligible yards posted. Granted this increase, we are hopeful that we can post at least an additional 150 yards this coming year, so that at the end of the fiscal year 1958, we will have about 94 percent of all the eligible yards posted.

The reason we have directed our attention at the yards, is because it is essentially down at this level where the impact is greatest on the producer. The act requires of the yards posted under the act, that the market agencies be bonded, that the yards provide adequate facilities, that their rates be reasonable, that their scales be checked, and that their trade practices be reviewed constantly.

Although we have been criticized recently for not devoting some of the funds under this act to explorations into trade practices on the part of packers and others outside the yards, I think our policy has been sound in attempting first to use our funds to bring the impact or the benefits of this act down closest to where the producer can obtain them.

In addition to the posting of the 150 yards next year, we are hopeful that some of the funds requested would be available to begin some investigations into the buying practices of packers off the yards; in

other words, into the feed lots, into the direct-buying areas, and so on, in the concentrated areas of livestock production.

UNITED STATES WAREHOUSE ACT

The third item of $52,150 to further strengthen the supervision of the United States Warehouse Act. As I have indicated to this committee, in years past, it is our desire and hope that we can eventually get the examinations per warehouse for both grain and cotton up to an average of approximately two a year.

The increases granted in the last 2 years have enabled us to push that up to where it appears this year we will get an average of about 1.8 inspections per licensed warehouse. The increase we are asking for next year, unless we get an expansion in licensing or additional occupancy in presently licensed facilities, we hope that we can reach the level of at least averaging two inspections per year on these warehouses. We don't know, frankly, whether it is adequate.

We would like to try it over a period of time to see whether that wouldn't be sufficient supervision to see that the warehouses licensed under the act are being operated properly.

ADMINISTRATION AND COORDINATION OF PAYMENTS TO STATES, TERRITORIES, AND POSSESSIONS

The final program under the item Marketing Service's subappropriation of $15,800 is directed to expanding the staff to carry on more supervisory work with the State departments of agriculture under the matched funds program.

That program is maturing. It is doing increasingly good work out there. We are requested—increasingly so—by the individual States, to come out and assist them in their projects, to help them develop new projects, and to see how the money they are spending is being used.

Much of the work under the matched funds projects ties directly into the Marketing Service's programs which I have discussed here briefly.

For 3 years now, we have been requested by the advisory committee on the matched fund work, to add an additional man to the staff to aid them in the development of sound programs. We think doing that would be highly justified.

That completes my general testimony on the increases requested under the Marketing Service's subappropriation.

INSPECTIONS UNDER THE WAREHOUSE ACT

Mr. WHITTEN. How many inspections do you have per year on the average at the warehouses?

Mr. LENNARTSON. Over all the warehouses, grain as well as cotton, we hope to average about 1.8 this year. Frankly, it isn't that high in cotton, and the reason is that the stocks of cotton had expanded tremendously with the result that the time required in each visit was extended that much further.

Now, in the event cotton production goes down or, because of these large export programs, or for other reasons, the quantity of cotton in the warehouses being supervised shrinks, the average can be

stepped up on the cotton warehouses. Originally, some time back we were making four visits per year to all the warehouses licensed under the act. Frankly, we don't know whether that is the right level. Certainly we feel justified in at least making an average of two per year.

Mr. WHITTEN. What is the total number of new employees that you would have in the series of items?

Mr. LENNARTSON. In the series of items, under the regulatory acts, it would call for an increase of 41 man-years in relation to a base of 250 for the fiscal year 1957.

UNITED FRESH FRUIT AND VEGETABLE ASSOCIATION CONTRACT

I have one more item, Mr. Chairman, which I know this committee is interested in, and that is that we have notified the United Fresh Fruit & Vegetable Growers Association that as of the end of this contract year we would no longer carry on that contract, which has been running, as you know, for a period of 10 years.

Now, under that contract some extremely worthwhile, very fine work has been done for the fruit and vegetable industry. The need for the work continues, but, very frankly, we felt that after a 10-year period a decision should be made on the part of that industry as to whether or not they wanted to carry the work on themselves or to stop it completely.

Two of the industry advisory committees associated with that industry have met. One of them endorses the continuation of it very strongly. The other one has some very mixed feelings on it. We are discontinuing the contract and have so notified the organization. It will be discontinued before July 1, 1958. Some of the $77,000 which is in this financial project which was used for that contract may be required to terminate the contract. But with whatever is left, we are having the Fruit and Vegetable Division and other Divisions, develop projects within the inspection and grading field that are extremely worthwhile for which we propose to use the balance.

There is a great deal of work that needs to be done in developing marketing information type of material with respect to the standards and grades, such as we discussed on the hog grades here, that we are absolutely lacking in. We would propose, that if the money is left in this project, to transfer it to that type of activity and to use it in a very effective manner.

Mr. WHITTEN. Mr. Lennartson, it is my recollection that, under the Agricultural Marketing Act of 1946, the intent of this contracting type of research was to prevent the forming of large numbers of permanent offices in fields where industry could do the job better, and where you could complete the jobs without having permanent employees on your rolls. I accept your statement as to the value of this work. But if the industry itself in 10 years can't see it, it might raise some serious questions as to whether it is worthwhile. I think continuation of any such contract beyond 10 years would indicate that the industry thought it was valueless.

I think perhaps if I were going to be critical, I would criticize you for the length that you have carried it on, rather than for bringing it to a termination now. I don't think the Agricultural Marketing Act was ever intended as a permanent source of funds for any group, but

only as a means to do research in the hope that thereby you could convince the industry of the need for them to carry the work on themselves.

Mr. WELLS. May I comment, Mr. Chairman?

Mr. WHITTEN. Yes.

Mr. WELLS. I would like to say that at the time the Department of Agriculture was reorganized and the Agricultural Marketing Service formed, the funds for this contract were placed in the Marketing Service subappropriation of the Agricultural Marketing Service, because we looked on this not so much as research, but as an educational and demonstrational type of project.

In reaching the decision to terminate the contract, we are in no way criticizing the contractor, but rather taking into consideration the fact that over a period of 9 years this work has now proceeded to where some 75 or 80 fruit and vegetable wholesalers have, themselves, installed training departments. It has appeared to us that there is an excellence chance that this work will go ahead now with the industry, itself, financing it, and that we will have introduced into the industry an element of fruit and vegetable merchandising which is to the advantage of both the growers and the consumers of fruits and vegetables.

Now, in saying we terminated Mr. Lennartson was indicating that we have extended the contract for 1 year and given them 12 months' notice that as of the termination of the current year's extension, which ends in the fiscal year 1958, that we would expect the industry to carry the project, itself. We did this so that there would be a chance for an orderly transition.

MARKET DEVELOPMENT RESEARCH

Mr. HORAN. In that line may I ask a question which may be answered on or off the record. We are told that the human stomach is only so large and that the volume of food that the man eats stays pretty static, but he may shift around between commodities. We know now that meat eating has greatly increased in the last 15 years at the expense of starches, I suspect, and of course, in this market development for which you are asking $1,321,600, how do you go about determining which commodities you will assist most in market development?

Mr. WELLS. I think this is back in the research field, Mr. Horan. I would be very happy to answer on the record.

Mr. HORAN. I wondered if it would be embarrassing.

Mr. WELLS. We have, as you perhaps know, a series of research advisory committees. These committees are invited to look not only at our research work, but at related service work. We have, as a rule, an annual meeting with the research advisory committee dealing with deciduous fruits, citrus fruits, vegetables, with grains, with livestock, and on through the line.

Out of these advisory committee recommendations—and I am sure you understand that at least half the members of the committee are farmers and represent farm interests, and the other half represent the trade, research, and other interests that deal with the commodity—out of these advisory committee recommendations we get a great many very excellent recommendations, as well as very practical leads as to the type of research we might do.

Now, to come specifically to your question of what market development work we do: This depends partly on the recommendation of the research advisory committees, it depends partly on our opportunities to work with other groups and partly on our appraisal as to whether we are likely to have some success or not in the particular field. Very frankly, there are many places in the Agricultural Marketing Service where you proceed with research and education without having the means to push through to a final conclusion, as the earlier discussion with respect to the meat-type hog before this committee this afternoon quite clearly demonstrated.

On the other hand, there is throughout the agricultural community an increased interest and awareness in the art, let us say, of selling and salesmanship, market promotion and market development. We have been working for a number of years, practically ever since the passage of the Research and Marketing Act, with the cotton groups who have been putting up a first-class fight, researchwise and promotionwise, to sell cotton, and I think have done a lot to help call attention to the fact that cotton has many advantages.

Mr. HORAN. In that case, in the decision to help cotton was probably inspired by the loss of the sales to the tire industry for cords, and the impact of synthetics on the cotton market?

Mr. WELLS. Partly it was because here was a hard-pressed agricultural industry; partly it was because here was an industry in which there were groups that you could work with; and partly because we thought we could do something, show results. We have been trying to do it with each other agricultural commodity that came to us, whether it was grapefruit, apples, or dairy products. I don't see how, if it appears that we have a chance of assisting the industry, Mr. Horan, that we can, say we will work with this commodity and not with some commodity. We have worked with the bakers in a series of rather carefully designed demonstrations to find out what kind of bread the American consumer likes, even though some people feel that the consumption of cereal products may be going downward. We want to know why and what can be done. We work with the meat people. Our problem is to work with each agricultural group where we have the support of the research advisory committees, where we have an opportunity to work with people who will use our materials—because there is not much use of doing work in these fields unless it is going to be used—and where we think we have some chance of getting something done.

Let me say, this whole field of market development with respect to agricultural products, especially with the producers themselves taking part in it, is a new field and it is a field where none of us know all the answers. And in any event this whole field of market research, market promotion, and market development, is one where the final test is whether you can get out and sell the product.

Mr. HORAN. That is enough, Mr. Chairman. If Mr. Wells would like to amplify——

Mr. WHITTEN. He has that permission. I would like to say, under the Agricultural Research and Marketing Act, it is contemplated that none of these contracts runs over 4 years, which would be at least an indication that Congress figured 4 years was sufficient. On occasion you have extended it, due to certain circumstances, but as long as that is written in the act I think it should remain the yardstick as

to what you should do. Congress certainly intimated that 4 years should be either long enough to complete the task or to sell the industry on the value of it so they would take it over themselves.

INSPECTION AND GRADING UNDER COOPERATIVE AGREEMENTS

In connection with this, my attention has been called to the fact that in the act that I have just mentioned, the Secretary of Agriculture has authorized cooperative agreements with public and private organizations to make inspection and grading services available to third parties on a request basis and to charge such fees as would be reasonable and as nearly as may be to cover the cost of the service rendered. Do you have programs in that field? If so, how much of the fees are collected and what happens to those fees?

Mr. LENNARTSON. We have extremely extensive programs in the field of grading, inspection, market news, under the authority of that act. I suspect we have cooperative agreements in one form or another with all the 48 States in carrying out our inspection and grading activities.

In many cases we use State employees very extensively under license and under Federal supervision. With respect to the fees collected, Mr. Chairman, throughout all the commodity groups the entire inspection, grading and classing service is essentially 85-percent self-supporting. In other words, we collect a total of over $20 million through fees or other charges under these various inspection and grading programs to offset the biggest part of the cost. These collections go into trust funds, reimburse the appropriation, or are deposited to the general revenue fund of the Treasury. That varies by commodities, but overall the service, including cotton classing, grain inspection, tobacco and naval stores, as well as the commodities graded under the Agricultural Marketing Act, is self-supporting to the extent of 85 percent.

OTHER MARKETING SERVICE WORK UNDER COOPERATIVE AGREEMENTS

On market news, we also enter into cooperative agreements with States, which include this matter of sharing financial responsibility even though it is not on a fee basis. There the States who are in on the overall program, which involves something better than $4 million in Federal funds, are putting up about an additional 25 percent to take care of the local aspects. That figure may sound small, but it must be recognized that great, substantial amounts of the Federal funds go to cover the large terminal markets which are basically a Federal responsibility.

I might also add with respect to that United Fresh Fruit & Vegetable contract that that industry did put up a substantial share of the cost of running that project outside of the contributions of the Federal Government.

MARKETING SERVICE WORK PURSUANT TO AGRICULTURAL MARKETING ACT OF 1946

Mr. WELLS. Mr. Chairman, does the committee understand that title II of the Research and Marketing Act covers not only marketing research, but is basically the legislation now with respect to classing,

grading, inspection, and all of the other marketing-service activities of the Agricultural Marketing Service, except for that done under the regulatory and other specific acts. At the time that that act was written there was a review of the legislation relating to many service activities now carried on, and the legislation was written in such way as to cover and bring to date the various amendments and changes that had taken place over the years.

TRANSFER OF RENTAL COSTS TO GENERAL SERVICES ADMINISTRATION

Mr. WHITTEN. I note an item of $115,500 for transfer of cost to General Services Administration. What is the purpose of that, and how much space is involved in it?

Mr. WELLS. This, Mr. Chairman, is rent. We are now paying rent on facilities where the General Services Administration has taken over the rental arrangements. This proposes a decrease in our appropriations on the understanding that General Services will assume the cost of these particular rents.

Mr. WHITTEN. If you could supply for the record the amount of space involved.

Mr. WELLS. We know the space and the location and will be glad to do so.

(The material requested follows:)

Space for which leases are being transferred to GSA, fiscal year 1958

	Number of square feet
Cotton classing:	
500 West Chickasauba St., Blytheville, Ark	6,000
208–210 Gaines St., Little Rock, Ark	4,337
1020 Crescent NE., Atlanta, Ga	9,855
1711 Central Ave., Augusta, Ga	4,329
408 Northwest 5th St., Oklahoma City, Okla	189
2627 Millwood Ave., Columbia, S. C	3,302
250 Leggett Dr., Abilene, Tex	5,000
Hawkins Way, El Paso, Tex	5,850
Airport Blvd. and 53d St., Austin, Tex	3,774
Avenue F and 23d St., Lubbock, Tex	12,515
Total, cotton classing	55,151
Grain Standards Act: Hickman Bldg., Memphis, Tenn	280
Tobacco inspection:	
620 South Broadway, Lexington, Ky	694
3937 Main St., Upper Marlboro, Md	456
Total, tobacco	1,150
Grand total	56,581

PAYMENTS TO STATES, TERRITORIES, AND POSSESSIONS

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
Payments for marketing service work (sec. 204 (b) of the Agricultural Marketing Act of 1946) (total obligations)	$1,000,000	$1,160,000	$1,260,000
Financing: Appropriation	1,000,000	1,160,000	1,260,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
11 Grants, subsidies, and contributions	$1,000,000	$1,160,000	$1,260,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$1,000,000	$1,160,000	$1,260,000
EXPENDITURES AND BALANCES			
Total expenditures (out of current authorizations)	1,000,000	1,160,000	1,160,000

Mr. WHITTEN. Any further questions?

If not, we wish to thank you for your presentation in connection with this subject. Now we turn to payments to States, Territories, and possessions. In that connection, I would like pages 77 through 84 of the justifications inserted in the record at this point.

(The material referred to is as follows:)

Payments to States, Territories, and possessions

Appropriation act, 1957 and base for 1958	$1,160,000
Budget estimate, 1958	1,260,000
Increase (for additional marketing service work by State departments of agriculture and similar agencies under matched fund projects)	+100,000

Project statement

Payments for marketing service work under sec. 204 (b) of the Agricultural Marketing Act of 1946:	
1956	$1,000,000
1957 (estimated)	1,160,000
Increase	+100,000
1958 (estimate)	1,260,000

INCREASE

(1) Increase of $100,000 for additional matched-fund marketing service work by State departments of agriculture and other appropriate State agencies.

Need for increase

The current scope of agricultural problems requires an increase in the effective work State marketing agencies can do toward their solution. Because of current problems of surpluses and lowered net farm income, rising marketing costs, production shifts in many areas which are creating marketing problems, and the continuous adjustment required of the marketing system to technological progress, this increase is needed to get more work by the States in the marketing field.

These State agencies are probably better qualified through the wide experience of their personnel than any other in rendering on-the-spot assistance to producers and individual firms in making marketing research results effective in local and regional marketing problems. By adapting research results and improved marketing practices to the marketing problems of their own areas they help to increase outlets, move seasonal surpluses, reduce marketing costs, and maintain product quality.

The increase would enable States to conduct some of the needed projects for which 1957 funds were insufficient. Increasingly in recent years as the greater need for this work has developed and as the program has helped States to deal

more effectively with marketing problems, the State governments (and also industry groups) have made more funds available. Most State legislatures are meeting this winter. Many have before them proposals to increase the funds available for this marketing service work. Some States do not permit the State funds to be expended unless they are spent as a part of this Federal-State program.

The distribution of funds to the States each year, which is made on the basis of achieving the greatest amount of marketing service results from the available appropriation, has left unmatched many useful and needed projects, some of which were recommended as first priority by the advisory committees. The increase would permit the States to accomplish some of this work in 1958.

All work approved by advisory committees. All the current matched-fund marketing service work has been reviewed and approved by the Research and Marketing Act advisory committees. The projects approved for expansion will likewise be consistent with the recommendations of these committees.

Most of increase would be used for expansion of work by States already in program. Since most of the important agricultural States in the country are currently cooperating in this activity, the major part of the increase would be used to expand matched-fund marketing service work in the States now in the program. The balance would be utilized to initiate the program in other States.

The increase would be used principally in the following fields of work:

(*a*) *Increasing sales of agricultural commodities*—1. Finding markets for local seasonal surpluses. Producers are assisted in disposing of local seasonal surpluses by providing shippers, brokers, truckers, and other potential buyers with up-to-date information on (*a*) location, (*b*) anticipated supplies, (*c*) harvest dates, and (*d*) peak marketing periods for the products concerned, and by conducting special promotional campaigns during the surplus periods.

2. Increasing consumption of products chronically in abundant supply by (*a*) assistance to producers, shippers, wholesalers, and retailers in improving the effectiveness of their year-round merchandising and advertising activities, (*b*) special surveys to determine trade opinion regarding improvement shippers should make in their grading, packing and other marketing practices to increase consumer acceptability of their products.

(*b*) *Reducing costs and improving operating efficiency*—A portion of the proposed increase would be used to expand services to assist producers, processors, and others in reducing marketing costs through the application of improved methods. Recent research results indicate, for example, the savings that can be achieved through the use of newly developed fruit and vegetable containers, improved transportation methods, the adoption of such techniques as transporting milk in bulk rather than cans, and grading eggs on a case-lot sample basis to avoid the examination of each egg.

Studies of plant layouts and handling equipment show how efficiencies can be obtained in eviscerating poultry; aerating, drying, and storing grain; handling livestock in country auction and concentration yards; handling milk in country plants and disposing of dairy-plant waste; moving fruits and vegetables into, within, and out of wholesale warehouses; and other types of processing and marketing operations.

(c) *Maintaining product quality.*—Marketing services aimed at maintaining the quality of farm products from the time they leave the farm until placed in the hands of the consumer at the retail level would be expanded. Much waste and quality losses are caused by improper methods of handling. These losses in the quality and nutritive value of the products which go into consumption increase marketing costs and hamper efforts to expand markets.

The portion of the increase used to assist in reducing these losses would be used for such activities as (*a*) solving quality problems associated with milk stored on the farm and transported in bulk tanks, and milk moved through cleaned-in-place pipeline installations; (*b*) handling and storage techniques and equipment for grain which will prevent rodent and insect infestation and deterioration due to moisture; (*c*) demonstrating new objective methods and devices for measuring maturity of fruits and vegetables so that producers can more accurately determine when to harvest to insure maximum shipping or processing quality; and (*d*) demonstrating ways of avoiding bruising and loss of condition of polutry and livestock as they move through the marketing system.

Plan of work:

Based on the approval by the Department of Agriculture of projects proposed by the States, which will most effectively carry out the objectives of the program, funds would be paid to the States. These funds, with at least an equal amount supplied by the States, would be used by the State to carry on the work under the approved projects.

STATUS OF PROGRAM

Current activities

By getting practical application of improved marketing practices through work by State departments of agriculture and similar State agencies, this program aids in maintaining quality, expanding outlets for farm products, and reducing losses from spoilage by improving efficiency in handling and preparation for market. The program also aids in the movement of seasonal surpluses to their best market, in the reduction of marketing costs, and helps to increase returns to farmers from the marketing of their products.

The Federal payments, authorized by section 204 (b) of the Agricultural Marketing Act of 1946, are made under cooperative agreements between the United States Department of Agriculture and State departments of agriculture, bureaus of markets, and similar State agencies for the conduct of eligible marketing-service activities on a matched-fund basis. The States contribute at least half of the cost and perform the work with State personnel.

The amount of the Federal payment to the State is not governed by formula. Payments are based upon an evaluation of the relative urgency of the marketing-service problem confronting the State, the probable effectiveness of the proposed plans for solving or alleviating the problems, the ability of the State to carry out the program proposed, and the availability of matching funds.

Georgia, Missouri, and Vermont entered the program in fiscal year 1956, bringing the total number of States and Territories in this activity to 41. Separate State projects conducted totaled 109, an increase of 9 over 1955. As in most recent years, emphasis in these projects has been placed on improving or maintaining product quality and expanding market outlets for agricultural products.

Selected examples of recent progress

1. *Louisiana and Kentucky strawberry growers assisted in moving large crops at satisfactory prices.*—By following recommendations of State department of agriculture specialists in picking, grading, packing, and handling, strawberry growers of Louisiana and Kentucky were able to market crops double the size of those last season at good prices. Louisiana growers sold 788,000 crates in 1956 compared to 352,000 in 1955, and for Kentucky growers the sales were 536,000 crates in 1956 against 262,000 in 1955. The profitable marketing of these increased supplies at only slightly reduced per-crate prices, was accomplished despite larger strawberry supplies from competing areas.

2. *New York State apple and maple sirup producers profit from special market information program.*—For apples, 32 weekly reports on prices, storage holdings, and movements to market, enabled producers and local marketing agencies to take advantage of the best marketing opportunities for their apple crop which represents a commercial production averaging 20 million bushels annually. The reports for maple sirup included data on weekly production prospects, supplies, and gallon and bulk prices by grade. According to producers, these timely reports effectively assisted them in obtaining the best prices for their product, of which New York State is the second largest producer.

3. *Grain sanitation program expanded in North Dakota.*—In North Dakota work was expanded on the grain-sanitation program which emphasizes the prevention of deterioration and the elimination of contamination of grain in storage by rodents, birds, and insects. Reports from the State indicate that this work has reduced substantially in the program areas, the quantity of contaminated grain which has to be sold at a discount.

4. *Feeder-calf sales in Tennessee increased income of producers.*—Assistance provided by marketing specialists of the Tennessee Department of Agriculture in conducting 11 feeder-calf sales at local market points throughout the State last year, is credited with increasing producer returns by about $32,000 on the 4,785 head sold. This is equivalent to a premium of 1½ cents per pound over calves of the same quality sold at regular sales. Increasing benefits in future years from the example of these sales is expected, since from them producers learn how to grade, sort, and pool their calves in order to obtain the best prices.

5. *North Carolina cattle feeders profited from marketing assistance.*—The North Carolina Department of Agriculture assisted feeders with small lots of cattle in making direct sales to packing plants on the basis of carcass grade and yield. By marketing these cattle in this manner, feeders realized from 1½ to 3 cents per pound live weight more than they would have through the usual auction method.

6. *Marketing-assistance program increased returns to Mississippi vegetable and pecan growers.*—Marketing agents of the Mississippi Department of Agriculture

assisted some 15,000 vegetable and pecan growers in improving their returns last year by showing them the proper methods of harvesting, grading, packing, and packaging their products. This work was concentrated at the Farmers Central Market at Jackson, Miss., and the several seasonal branch markets over the State through which about $8 million worth of Mississippi-grown products moved during the year. Acreage restrictions on basic crops has resulted in the expansion of a number of vegetable items by growers with limited experience in vegetable marketing. Guidance provided these growers enabled them to increase returns by as much as 20 percent.

7. Marketing program improved returns to West Virginia broiler producers.—As a result of the marketing assistance given the broiler industry by the West Virginia Department of Agriculture, broiler growers of that State received additional returns last year estimated at $475,000 on the 22 million birds marketed. This increased income, equivalent to nearly three-fourths of a cent per pound, was achieved by giving growers the current facts on the marketing situation and furnishing buyers over the West Virginia market territory with information on individual flocks. In conjunction with the auction method of selling, also sponsored under this program by the West Virginia Department of Agriculture, this information program has greatly aided the marketing of the State's broiler production, and substantially reduced costs for both the grower and buyer.

8. Quality improvement work on Minnesota dairy products continued.—During the 1956 summer season, this State department of agriculture program under which a mobile bacteriological laboratory moves about the State examining raw milk, milk in various stages of processing, and pasteurized dairy products in order to ascertain sources of contamination, and to suggest measures to plant managers for quality improvement, was conducted in Stearns, Benton, Morrison, and Sherburne Counties.

The improved quality of Minnesota dairy products resulting from this program, as shown by the steadily increasing number of samples that meet State standards, has helped to strengthen the competitive position of Minnesota dairy products.

Distribution of payments

The allotments, by States, for 1956 and 1957 are shown in the following table:

Allotments by States

	Actual, 1956	Estimated, 1957		Actual, 1956	Estimated, 1957
Alabama	$17,211	$26,700	North Carolina	$58,856	$70,814
Arkansas	13,214	----------	North Dakota	24,000	32,886
California	98,922	100,000	Ohio	11,500	11,500
Colorado	5,105	----------	Oklahoma	23,000	23,000
Florida	45,000	62,800	Oregon	6,895	27,218
Georgia	13,300	52,127	Pennsylvania	7,000	11,544
Illinois	26,362	23,608	South Carolina	6,140	6,140
Indiana	41,755	52,300	South Dakota	4,813	7,000
Iowa	10,000	10,000	Tennessee	14,524	17,407
Kansas	49,285	53,980	Texas	15,123	22,000
Kentucky	24,954	29,234	Vermont	750	4,500
Louisiana	65,850	67,655	Virginia	38,140	47,000
Maine	40,500	55,500	Washington	37,000	9,280
Maryland	17,507	19,500	West Virginia	32,000	32,000
Massachusetts	7,700	2,700	Wisconsin	65,992	80,000
Michigan	18,927	25,690	Wyoming	7,000	11,000
Minnesota	23,961	24,388	Alaska	3,764	7,030
Mississippi	36,341	53,319	Hawaii	----------	8,750
Missouri	38,600	21,000	Puerto Rico	16,989	12,000
Montana	2,695	8,000			
New Jersey	2,661	6,065	Total	1,000,000	1,160,000
New York	26,664	24,275			

Mr. WHITTEN. Do you have any statement?

Mr. WELLS. I will ask Mr. Crow to make a brief general statement, Mr. Chairman.

Mr. WHITTEN. Mr. Crow, I notice you have a $100,000 increase. This committee is always very much interested in your work, and you always make a very fine presentation to us.

GENERAL STATEMENT ON MATCHED-FUND WORK

Mr. CROW. As you know, the Agricultural Marketing Act of 1946 in addition to authorizing research to improve marketing, authorizes making funds available to the States for marketing service in order to show marketing firms and agencies how to apply the results of this research, to get adoption of the best known marketing practices, and to collect and disseminate needed marketing statistics and information.

The act further directs that this marketing service work in the States be done by State departments of agriculture, and authorizes the use of Federal funds on a matching basis to conduct approved marketing service projects.

LIST OF STATES AND TERRITORIES PARTICIPATING IN PROGRAM

There are 41 States and Territories participating in this program. We have approved and are operating, as of this date, 122 different projects in the following fields: 35 States are carrying on work of showing farmers and marketing people how to reduce deterioration and spoilage of farm products in marketing channels; 24 are conducting projects to expand outlets for farm products—moving seasonal surpluses and engaging in longer-range activities to expand outlets; 26 are showing marketing agencies how to improve facilities, handling equipment, and methods; and 32 have projects in which they are collecting and disseminating State and local information, such as market news reports on country points, and statistics on production, prices, utilization, and the like. A list of these projects by States is as follows:

LIST OF STATE MARKETING SERVICE PROJECTS, OCTOBER 1, 1955, TO SEPTEMBER 30, 1956

Alabama:

2550–62.... Improving quality and expanding market outlets for eggs (better handling, grading, refrigerating, and displaying).

3550–35.... Improving and maintaining quality of seed (plant-by-plant examination of equipment, facilities, and methods, recommendations, and subsequent improvements—peanuts, cottonseed, and small grain seed).

Alaska:

2550–51.... Improving quality and handling methods and expanding outlets (grading, handling, and care of eggs by wholesalers and retailers; harvesting, grading, and packaging of potatoes; quality testing of beef produced on native forage).

Arkansas:

3550–10.... Improving quality of eggs (demonstrating proper methods of candling, grading, and sizing; promoting use of refrigeration by producers for holding eggs; regional egg marketing meeting at Hot Spring).

California:

2550–10.... Expanding market outlets (marketing surveys for basic information needed to effect improvements in quality, packaging, and methods of sales promotion—dried prunes, long white potatoes, strawberries, and asparagus).

3550–6.... Improving quality standards and packaging (Thompson seedless grape maturity and Perlette grape maturity in Coachella Valley, containers for carrots, Crenshaw melon maturity. Also, 8 reports issued on work begun in previous years).

3550–27.... Developing methods of certifying nursery stock (cherries, peaches, nectarines, almonds, plums, prunes, apricots, and grapes).

California—Con.

4550–10.... Providing new basic information on tree plantings and removals (tree fruits and nuts) and acreage, production, utilization, and prices (bush berries).

4550–45.... Developing methods for improving production forecasts (cling peaches).

4550–46.... Developing methods for improving production forecasts (Bartlett pears).

4550–53.... Developing methods for improving production forecasts (grapes).

Colorado:

2550–46.... Improving marketing practices (survey among brokers, wholesalers, and retailers to determine needed improvements in marketing and promotion of peaches).

2550–61.... Determining extent and causes of off flavors in milk and dairy products in Denver area and finding methods of correcting problem).

Florida:

4550–19.... Obtaining new basic information on location, age, size, and variety of citrus trees for developing improved methods of forecasting production.

4550–54.... Improving production forecasts for citrus fruits by means of limb counts, frame counts, and growth and droppage surveys.

4550–58.... Improving seasonal production forecasts for tomatoes.

Georgia:

2550–67.... Improving quality and expanding market outlets for eggs (demonstrating proper methods of grading, packaging, and handling to meet requirements of egg law).

2550–68.... Improving quality and expanding market outlets (how to grade, package, and load tomatoes, cantaloups, and watermelons; proper selection and installation of equipment at farmers' markets for grading and packing cantaloups; development of facilities at farmers' markets for washing, grading, and packing leafy green vegetables).

2550–77.... Improving quality and expanding market outlets for livestock through better grading practices at feeder calf sales.

2550–78.... Improving quality and developing market outlets for corn food products by means of proper sanitation practices and more efficient milling operations.

2550–79.... Improving quality and market value of seed by determining where quality breakdown occurs and how improvements can be made.

4550–57.... Providing basic data and marketing information to aid in developing marketing programs.

Hawaii:

2550–57.... Improving methods of grading and packing and promoting the adoption of standard containers (fruits and vegetables).

2550–72.... Developing new and revised standards for grades of processed fruits and vegetables.

Illinois:

2550–16.... Improving methods of handling and expanding market outlets (grading, handling, storing, and displaying eggs; grading and packing of slicing cucumbers and tomatoes; color chart tests to assist producers in marketing riper peaches).

2550–50.... Providing special buyer information on peaches and experimental market news for livestock and eggs.

2550–63.... Increasing the consumption of milk and dairy products by promotional programs in retail stores, schools, and fairs.

3550–12.... Improving facilities and packing and handling methods (assisted in forming Cobden Tomato Cooperative and installation of its washing and grading machine; Little Egypt Vegetable Growers' Cooperative, fiberboard carton for slicing-cucumbers and new type basket for bushel pack).

Illinois—Con.

4550-37.... Providing producers and marketing agencies with new basic information for planning their marketing programs (varietal breakdown of acreage planted or seeded for field crops; number of sheep by breeds, quarterly sow farrowings and calf and lamb births; survey of apple and peach tree numbers; semiannual timber products report; assembly of data for marketing bulletins on various products).

Indiana:

2550-11.... Improving operating efficiency of grain elevators, feed mills, and locker plants, and providing special market information (storing versus selling soybeans, seasonal changes in feed prices, additional storage facilities, simplified weight recording system; demonstrations of improved locker plant operations; feeder cattle demonstrations, quarterly cattle-on-feed reports, meat-type hogs; buyer information service on fruits and vegetables).

2550-17.... Expanding market outlets for plentiful foods through cooperation with trade groups (Indiana Farmer-Retailer Committee—pork, dairy products, broilers, peaches, and apples).

2550-36.... Improving and standardizing the quality of milk and dairy products (training plant personnel, grading, clinics, statewide conferences).

2550-55.... Improving quality and efficiency in vegetable canning plants (1955-56 Indiana Canners' Technicians' School as well as on-job training, monthly newsletter on new developments in canning procedures).

4550-6..... Providing market information (quarterly sow farrowings).

4550-52.... Developing an experimental market news program (hogs).

Iowa:

4550-32.... Obtaining new market information (expected marketings of hogs, quarterly sow farrowings, inventory data on hogs and cattle, and milk production and marketing patterns).

Kansas:

2550-18.... Improving the quality of raw milk used in manufacturing dairy products and of the end products (help to plant operators in determining cause of poor quality and corrective action; surveys of cheese, powdered milk, ice cream, ice milk, cottage cheese, and condensed milk plants to improve sanitation and processing).

2550-19.... Promoting greater consumption of foods in plentiful supply (eggs, milk, dairy products, and meat), and improving quality of eggs (development of more graded egg buying stations, uniform basis of buying and selling, increased use of grade standards in retailing eggs, greater efficiency in handling).

4550-7..... Furnishing new market information and basic data (protein content of wheat, survey of grain storage capacity, wheat varieties of desirable milling quality, monthly prices of various products, improvements in egg quality, quarterly sow farrowings, calf crop).

Kentucky:

2550-2..... Improving marketing methods and expanding outlets (grade and quality pack and buyer information service for strawberries, proper methods of grading and caring for eggs, operations and facilities of livestock auctions, livestock conservation, weekly wool market report, beekeeping equipment and preparation of honey, improved quality and merchandising of sorghum sirup).

4550-2..... Providing basic data (surveys of grain storage facilities and of honey production and marketing).

Louisiana:
- 2550–1____ Improving distribution and utilization (prices paid and demand-supply situation for milk; grading, packing, and handling of strawberries).
- 2550–53____ Improving handling, processing, merchandising, and retailing techniques for poultry and eggs (voluntary "grade label program," assistance to individual processing plants and grading stations, wholesalers, and retailers; layout and equipment for new poultry processing facility).
- 3550–2____ Improving packaging, handling, and transportation (getting strawberry crop to markets faster and in modern refrigerator cars, rail rates for pulpwood, testimony and exhibits on proposed freight-rate increase).
- 3550–25____ Maintaining fiber quality in cotton gins through improved plant operations and installation of gin equipment.
- 4550–11____ Assembling and disseminating special market information at the local, area, and national level (quantities, types, and locations of 34 farm crops).
- 4550–13____ Assembling and disseminating special market information at the local or area level (pecans).
- 4550–49____ Assembling and disseminating market information at the local, area, and national level (timber products).

Maine:
- 2550–13____ Improving marketing methods and expanding market outlets (potatoes, poultry and eggs, red meats, apples, dry beans, and maple sirup).

Maryland:
- 2550–3____ Improving the quality and merchandising of canned fruits and vegetables (sanitation, quality of raw and finished products, operating efficiency, and facilities).
- 2550–38____ Improving marketing and processing methods and expanding outlets (fresh sweetcorn, seed potatoes, sweetpotatoes, Italian-type tomatoes for processing, and promotion of fruits and vegetables in periods of peak supplies).
- 3550–24____ Improving handling methods and facilities (moisture testing of corn, improved quality of soybeans through use of grade standards and recognition of "purple mottle," better loading of cars, and prevention of storage bottlenecks for wheat).
- 4550–29____ Improving methods of grading and marketing livestock and wool (demonstrating grading methods at feeder cattle and calf sales and for live hogs, wool pools, livestock conservation).
- 4550–30____ Providing new basic information (special cattle survey by major farming regions, survey of apple and peach production and marketing methods).

Massachusetts:
- 4550–1____ Obtaining new basic data on vegetables (acreage intentions, yield, production, prices, and total farm value for 46 vegetables).
- 4550–50____ Obtaining basic data for cranberries (cultural practices and marketing methods).

Michigan:
- 2550–20____ Developing methods of certifying nursery stock (cherries, peaches, and strawberries).
- 2550–41____ Improving grading, handling, and packing (fruits and vegetables at Benton Harbor market; poultry and eggs at retail stores).
- 4550–15____ Providing special market information (fruit tree counts; progress reports on onion crop in competing State; production estimates of principal varieties of apples).
- 4550–56____ Developing an expanded market news service (livestock, poultry and eggs, and other products).

Minnesota:
- 2550–47____ Improving quality and expanding market outlets (mobile bacteriological laboratory for dairy products, milk-vending machines; proposed egg law; grading and labeling of honey and maple products; promotion of certified seed potatoes).
- 3550–28____ Developing methods of certifying nursery stock (Prunus varieties).

Minnesota—Con.

4550–26.... Providing new basic data (milk and dairy products; size and breed composition of breeder turkey hen flocks; quarterly sow farrowings).

Mississippi:

2550–21.... Improving methods of handling fluid milk and milk used in processing.

2550–27.... Improving methods of harvesting, grading, loading, packing, and packaging vegetables.

2550–76.... Maintaining quality and expanding market outlets for poultry and eggs.

4550–18.... Providing new basic data and marketing information (acreage, yield, and production estimates for corn and oats; livestock inventories; statistics on commercial vegetables; statistical summaries on production, utilization, and marketing).

Missouri:

2550–64.... Improving quality and expanding market outlets (registered cattle for breeding; survey of facilities and methods used in dairy manufacturing plants; promoting consumption of dairy products, eggs, apples, and strawberries; buyer information service on applies, watermelons, and cantaloups; improved picking and packaging of strawberries).

4550–47.... Obtaining and analyzing new basic data (quarterly reports on prospective hog marketings; varieties and color of hybrid seed corn).

Montana:

2550–52.... Improving quality (grading and care of eggs at retail level; improving operations of dairy plants).

4550–34.... Obtaining new basic data (data on protein content and varieties of wheat by counties for purpose of obtaining better balance between production and demand for wheat with high-protein content).

New Jersey:

4550–42.... Providing basic data (prospective yields, expected harvest dates, and competitive supplies from other States for fruits and vegetables; acreage, yield, and production of blueberries and cranberries by counties and townships; special reports on fall pigs, wheat, turkeys, apples, and milk).

New York:

2550–26.... Providing special market information (f. o. b. farm level report on eggs; quarterly reports on livestock auction marketings; weekly reports on Christmas trees, apples, and maple products).

2550–54.... Maintaining quality and improving distribution (uniform packaging of fruits and vegetables; survey of Niagara Falls market).

4550–16.... Providing new basic data (survey of muckland areas; purchases of grapes within and out of State and primary use; list of fruit and vegetable processing plants by areas and counties).

North Carolina:

3550–1.... Improving efficiency of cotton gins and corn meal mills (reduction in "rough prep" cotton).

3550–29.... Testing cotton fibers (length, strength, fineness, uniformity, and maturity).

3550–31.... Improving marketing practices and expanding outlets (more adequate facilities and equipment to improve grading and packing, and buyer information service, for fruits and vegetables; special sales of livestock on basis of uniform grades and weights; wool pools; facilities, processing, and packaging of poultry and eggs; standard grades for tobacco; increased consumption of milk).

3550–32.... Improving facilities and methods for handling grain (facilities for storing, drying, fumigation, and grading; improved and increased use of grading).

4550–8.... Providing new basic data (surveys of peaches, apples, and sweetpotatoes).

North Dakota:
2550–40.... Improving quality of milk and cream (plans for milkhouses complying with grade A standards; cooling facilities in cream buying stations).
3550–36.... Preventing deterioration and contamination of grain in storage (special emphasis on wheat, countywide programs on rodent-control measures).
Ohio:
4550–43.... Providing experimental market news (hogs and grain).
4550–51.... Providing new basic information (quarterly hogs reports).
Oklahoma:
2550–12.... Improving quality and expanding market outlets (grading, plant operations, and marketing methods for poultry and eggs, cantaloups, watermelons, strawberries, and sweetpotatoes; promoting consumption of honey; buyer information on pecans and hay; daily reports on supply and price situation of various products).
Oregon:
2550–66.... Improving quality of meat and meat products (survey of practices and processing methods in slaughtering plants; information from retailers for use by 1957 State legislature in determining need for compulsory inspection for plants not under Federal inspection).
2550–73.... Maintaining quality of filberts in storage.
2550–74.... Improving grading and handling of potatoes.
2550–75.... Improving quality and handling of seeds.
4550–41.... Improving crop forecasts and estimates for filberts.
Pennsylvania:
2550–59.... Improving quality of potatoes (improvements in facilities, grading, and packing).
2550–80.... Expanding market outlets through promotional programs and quality improvement.
4550–59.... Providing marketing information on supplies, utilization, market movements, and facilities.
4550–60.... Providing basic information on fruit tree numbers by varieties and ages.
Puerto Rico:
2550–8..... Expanding outlets and improving quality maintenance (proper methods of grading, handling, packing, and merchandising fruits and vegetables; tentative grade standards for taniers; amended regulation on sweetpotato shipments; and inspection and grading of coffee).
2550–69.... Improving the quality of processed products by use of quality standards and regulations (gandules and guava nectar and paste).
3550–4..... Improving marketing facilities (number, location, condition, and operation at various distribution levels).
South Carolina:
4550–4..... Improving and expanding market information (weekly report on eggs set and chicks placed; monthly bulletin on crops and livestock; bulletin on prices received by farmers; price index; special reports on pecans, livestock slaughter, honey production, calf and lamb crops, chickens raised, wool production, hybrid corn acreage, and wheat varieties; county estimates of livestock numbers; forecasts of vegetable production).
South Dakota:
4550–25.... Providing experimental market news and new basic data (quarterly pig surveys; grain storage capacity survey for corn and small grains; chicken and egg survey; plantings of barley by varieties; planting and harvesting patterns of various crops).
Tennessee:
2550–29.... Improving marketing methods and expanding outlets for poultry and eggs (candling, grading, packing, and merchandising methods).
2550–30.... Improving methods of marketing livestock (feeder calf and slaughter cattle sales; lamb and wool pools).

Tennessee—Con.

4550-20.... Providing special marketing information (daily releases on market conditions and prices for live broilers, eggs, fowl, roosters, and turkeys).

Texas:

2550-65.... Expanding outlets and improving quality (promoting grading sweetpotatoes; buyer information on sweetpotatoes, watermelons, and pecans; emergency assistance in locating boxcars and storage facilities for grain).

2550-70.... Expanding outlets and improving quality of poultry and eggs (proposed egg law drafted, proper labeling and grading, turkey census, daily releases on price and supply of poultry and turkeys).

Vermont:

2500-71.... Expanding outlets and improving the quality of milk (determining extent and cause of off-flavors).

Virginia:

2550-4..... Improving marketing methods for eggs (proper methods of grading and caring, sample grade-out method).

2550-5..... Improving methods and facilities for handling and storing grain and hay (development of grain marketing centers for providing services such as price information, equipment arrangement, operations, farm and commercial storage facilities, grading methods, buying and selling on basis of grade, better transportation methods).

2550-6..... Providing special market information (weekly price outlook report; special promotion campaigns for various products).

2550-7..... Improving livestock grading and marketing methods (demonstrations of live hog and carcass grades, stocker ewe and special livestock sales, report on livestock sold through local auctions).

2550-44.... Improving marketing practices and expanding outlets (plastic pints for strawberry pack; field crates for storing apples and fresh packs out of storage; improving grade and pack through "apple rings"; marketing cooperatives for sweetpotatoes, green tomatoes, and strawberries).

3550-15.... Improving grading, handling, and processing methods for canning tomatoes (better facilities, stricter sanitary code, higher quality product, and promotion of greater diversification in operations of plants).

3550-33.... Improving marketing facilities and handling methods (equipment and labor efficiency in apple packing houses; market facilities at Roanoke).

Washington:

2550-39.... Improving marketing methods and expanding outlets (harvesting and handling methods for potatoes to reduce stem end discoloration; milk-vending machines).

4550-55.... Providing special market information and basic data (county-by-county data for various commodities; information on acreage, plantings, and harvesting methods and equipment for cranberries).

West Virginia:

2550-56.... Improving grading, handling, and marketing (buyer information service on apples, peaches, and broilers; improved grading and packing at farmers' markets for eggs, fruits, and vegetables; feeder calf and cattle demonstrational sales; tobacco).

4550-40 ... Providing basic data and experimental market news (monthly releases on poultry and dairy production trends, prices, storage holdings, and cost of feeds; price quotations for broilers and turkeys; egg, poultry and vegetable prices by grades; county data for crops and livestock; preliminary plans for livestock price reporting service covering auctions).

Wisconsin:

2550-9.... Improving marketing practices, expanding outlets, and conducting experimental market news ("Cheese Week" and "June Dairy Month" campaigns; promotional activities at wholesale and retail levels for poultry, eggs, and meats; price reporting on live broilers and tobacco).

3550-11.... Providing technical assistance to marketing agencies in improving operations (assistance to small dairy plants in problems of consolidation and financing and building multiple-product plants).

3550-26.... Improving quality of dairy products (causes of quality defects in milk and dairy products at producer or dairy plant level and corrective measures; greater percentage of grade A or AA butter since passage of compulsory grade labeling law in 1953).

4550-5..... Providing new basic data (special survey of Cheddar cheese production, area variations in supply of grade A milk, milk production on township basis, "Wisconsin Dairying"; feeder pig marketing information, quarterly pig reports; production and marketing of honey and beeswax, cucumber pickles, peppermint, maple products; county agricultural data bulletins).

Wyoming:

2550-60.... Improving quality (grading, candling, and packaging eggs; processing, grading, handling, storing, and displaying meat and dairy products).

4550-38.... Supplying basic data (cattle movements from brand certificates, estimates of irrigated and nonirrigated crop acreages and production).

Mr. CROW. You will recall that last year you increased the funds for this program somewhat. I would like to report briefly what was done with this increase. We were able to make small expansions of the work in 25 States, including the addition of 1 new State—Vermont. We have inaugurated 18 new projects since this time last year, and increased the amount of work done on 6 others.

CONTRIBUTIONS BY STATES INCREASED

The States last year increased their support of the program by a larger amount than the Federal increase. In order to get the best use of the Federal funds used in this program, we did several things during the year. First, we got the advice of 13 advisory committees as to the kind of work which they felt was needed most in the marketing service field. We reviewed with the State people the problems in the States and their proposed program for dealing with them.

When a project proposal was sent to us, we checked it with marketing specialists in the Department who are best informed on that subject, and approved those projects that seemed to be most useful.

During the year we continued to urge the State research, service, and educational agencies to work together and to work with industry in their State in planning and carrying on projects. For this purpose a meeting was held in Raleigh of representatives of the extension services, the experiment stations, and the State departments of agriculture to discuss how to get better coordination of these agencies in planning and conducting their marketing programs. In order to show clearly how to accomplish this and the effectiveness of this approach, a report on the use of this joint attack in solving grain marketing problems in North Carolina was presented to the people attending this meeting. In that presentation the experiment station showed

how it carried on research to find the answers, the service people of the State department of agriculture showed what part they had in it, and the educational people of the extension service explained their contribution. Then they presented the results that had come from the program.

During the year, to the extent that we could, we sent our specialists into the States to advise them on the conduct of the work and help improve the work being done. Two short courses were conducted at the request of these State people to enable them to learn how to do a better job.

We required, as I mentioned last year, that these matching funds be kept in a separate account in the State, and we checked those accounts to be sure that the money was properly spent. Each State was provided with the results of the work done in the other States and with the appropriate research results which they could apply.

Last year I gave a number of examples of work being done in several States. For that reason it seems that we might omit discussion of examples at this time, but I have prepared a few for the record in case they are desired. By commodity groups, 22 States are working on dairy products, 26 on poultry and eggs; 28 on fruits and vegetables, 3 on ways of certifying virus-free nursery stock, 27 on livestock and meats, 18 on grain, 3 on tobacco, 4 on cotton, 3 on seed, and several on miscellaneous products.

REASONS FOR REQUESTING INCREASE IN FUNDS

Mr. CROW. We have requested an increase of $100,000 for the coming year for several reasons. In the first place, production patterns are changing in many States. Where areas are going into the production of new commodities, growers and handlers need help in planning the facilities for marketing those products; they need to be shown how to grade, handle, and pack them; outlets must be found; and they need additional information of a statistical nature on production, prices, and market demands.

In many States there are both short- and long-term problems of finding outlets for surpluses, so more work is needed in that field. It is especially helpful to be able to remove a short-time surplus of peaches, watermelons, or some other perishable product. A little help at the right time has been quite beneficial.

There are also increased pressures to find and adopt ways of holding down some of the marketing costs. Hence, it is proposed that this $100,000 increase would go for carrying on work of increasing sales of farm products, holding down marketing costs, and showing the people how to reduce deterioration and spoilage.

I would like to point out that this year the State legislatures are meeting throughout the country. Many of them are considering proposals for increased appropriations for this program, and are expecting such additional funds to be matched by increased Federal funds. We are not requesting enough increased Federal funds to be able to match all those projects; but this would enable us to go some distance in matching some of the increases.

The last point that I want to make, unless you have a question, is that the proposals which we are making for expansion of this program have been reviewed and recommended by 13 advisory committees.

Mr. WHITTEN. Mr. Crow, I wish you would list in more detail the projects that you are carrying on and the results that you are obtaining from them.

(The information referred to follows:)

EXAMPLES OF MARKETING SERVICE WORK BEING DONE BY STATES

DAIRY PRODUCTS

Marketing service projects are being carried on in 22 States to improve the marketing of dairy products. Vermont inaugurated a program during the year to increase the use of fluid milk by improving its flavor. To determine the extent and cause of off flavor, samples of milk delivered to 79 of the 83 shipping plants were tested, as well as samples of deliveries made by producers to retailers. Where off-flavor milk was detected, the cause of the poor flavor was determined, and corrective measures were suggested.

For several years, Wisconsin has carried on a marketing service program to improve the quality of butter produced in the State by locating low-quality products and showing producers and marketing agencies what should be done to improve the quality of their products. Since the initiation of this program in 1951, the percentage of undergrade butter (89 score or less) has dropped from 37 percent to 7 percent of the production. In cooperation with industry groups, Wisconsin also has conducted cheese promotion campaigns in 21 cities, reaching about 3 million families. Followup tests of the results of these campaigns show that sales during the week of the campaign increased by about 50 percent, and that during the following 4 weeks they averaged about 25 percent more than the volume sold before the campaign.

In Mississippi, about 600 producers were assisted in adopting handling procedures and installing the equipment required to maintain quality. This work resulted in the improvement of the quality of more than 400 million pounds of milk, which is about one-half of the State's annual milk production.

The other 19 States working on dairy products were engaged in activities to improve quality, improve marketing facilities and equipment, assist in the consolidation of dairy plants, encourage the installation of milk-vending machines and other steps to expand outlets, and to collect and disseminate marketing information by counties on such subjects as dairy cattle numbers, milk production, utilization, storage holdings, and prices.

POULTRY AND EGGS

Twenty-six States are working on poultry- and egg-marketing problems. Kansas, Oklahoma, and Tennessee did extensive work in demonstrating egg grades to producers and handlers and in promoting the sale of eggs on a grade basis. As a result, the graded eggs sold at prices 6 cents or more per dozen higher than the ungraded eggs. In Kansas, egg breaking plants reported that the improved quality of 1 million cases purchased during the year resulted in increased returns to producers of 1 cent per dozen, or about $300,000.

Kansas also assisted in remodeling 10 egg-handling facilities, and Oklahoma 18 poultry-processing plants. Similar work was done in Illinois and Louisiana. North Carolina assisted 35 poultry processors in improving their processing operations, and helped 6 plants in the remodeling of their buildings and in the installation of new equipment which cut their operating costs by an estimated $120,000 per year.

Several States increased sales of poultry and eggs by promotional campaigns, and 14 assembled and disseminated marketing information on production, marketings, storage stocks, market conditions, and prices. Through experimental market news programs, quoting broiler and egg prices at country points, several States increased the prices at the assembly points by bringing them more nearly in line with the prices prevailing in the larger markets.

FRUITS AND VEGETABLES

Twenty-eight States conducted marketing service programs in the fruit and vegetable field. During the year, 24 of these States were engaged in work to improve the grading, handling, and packing of these products. Kentucky by demonstrating proper methods of picking, grading, and packing strawberries to about 2,000 growers, helped increase the pack of U. S. No. 1 berries by about 25

percent, which increased the returns to growers by an estimated $125,000. Georgia by showing growers how to grade, pack, and eliminate culls of tomatoes and cantaloups, helped them get about $2 more per field box for tomatoes than in the previous year and about twice as much for cantaloups. Illinois successfully used color charts to help producers know when to harvest peaches, and developed a special pack for cucumbers in one area of the State which brought about 75 cents more per bushel than the average price in competing markets.

Twelve States assisted in improving facilities and equipment, in designing and locating new facilities, and in improving work methods for the purpose of reducing or holding down costs of marketing fruits and vegetables. Kentucky helped with the establishment of new facilities in Louisville and Somerset, Virginia assisted several apple houses in installing proper handling equipment and methods, and West Virginia assisted operators of packing sheds for apples and peaches in selecting and installing equipment.

Ten States were engaged in activities to expand outlets and increase the sales of fruits and vegetables. Some of these conducted special promotional campaigns to move short-time seasonal surpluses, while others such as California made studies to determine the possibilities of improving the longer time sales of their products by changes in merchandising methods, type of package, and variety produced.

Several States were engaged in providing needed marketing information on fruits and vegetables. A citrus-tree count in Florida was almost completed, and efforts are now being made to improve the forecasting of citrus production. Several States made tree counts or acreage surveys of other fruits. California made considerable progress in developing objestive sampling methods with which to improve production forecasts for peaches and pears. It is planned that the results of the peach forecasting work will be adopted during the coming season. A weekly planting report for tomatoes in Florida is proving very valuable in forecasting the volume of tomatoes that will be placed on the market at different times of the year.

NURSERY STOCK

Three States are conducting projects the purpose of which is to develop ways of certifying virus-free nursery stock. Under the California program, the greatest progress toward the development of a certification program has been made on cherries and grapes, and regulations pertaining to the registration of virus-free cherry trees and grapevines became effective in September 1956. In Minnesota the greatest progress has been made in the work on Prunus nursery stock, for which plans are being developed to initiate a certification program. Michigan is emphasizing work on strawberries.

LIVESTOCK AND MEATS

A variety of activities are being carried on by 27 States working on the marketing of livestock and meats. Indiana, Kentucky, Maryland, North Carolina, Tennessee, Virginia, and West Virginia assisted in organizing and conducting sales where livestock was sold on a graded basis. This work was carried on to show livestock producers and handlers the difference between the various grades of livestock and to encourage the sales of the livestock on a graded basis. These States report that where the animals were sold by grade at these sales, they brought returns of several dollars more per head than the prices prevailing at the regular auctions.

Kentucky and Maryland also did extensive work to show how to reduce injury to livestock by improving loading ramps, sorting pens, and other methods of handling. Oregon conducted a study to determine the need for a meat inspection program.

Indiana initiated an experimental price reporting program covering 61 local hog markets, after which the price differential between these markets and Indianapolis narrowed by about 6 cents per 100 pounds for the lighter hogs and about 32 cents per 100 pounds for the heavier ones. In order to give better estimates of the number of hogs that would be available for the market, the quarterly sow farrowing report was continued on a coordinated basis in Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Ohio, South Dakota, and Wisconsin.

Eight States provided assistance in expanding outlets for livestock and meats—Missouri promoting the marketing of higher quality breeding stock, Wisconsin emphasizing the promotion of pork, and other States promoting the sales of products in surplus supply.

GRAIN

During the year 18 States conducted marketing service programs pertaining to grain. Several States, such as Maryland, North Carolina, and Virginia, assisted in increasing returns to growers by encouraging sales by grade. In Maryland the program has developed to the point where practically all dealers are buying soybeans on a grade basis. These three States also did extensive work with grain elevators and others to expand the commercial grain storage capacity of the area and to improve grain handling methods. North Dakota concentrated on the provision of assistance on methods of preventing deterioration and contamination of grain in storage. As a part of this program, demonstrations were held to train farmers, grain handlers, and others in control procedures, and 815 farmers and 121 elevator operators were assisted in dealing with their rodent problems. In Indiana 61 grain elevators and feed mills were assisted in improving the operation of their facilities, with emphasis on increasing the efficiency of labor.

TOBACCO

North Carolina, West Virginia, and Wisconsin carried on marketing service work pertaining to tobacco. This work centered around maintaining and improving product quality and assembling and disseminating marketing information. All three of these States assisted tobacco farmers in the best methods of sorting, grading, and otherwise preparing tobacco for market, and in displaying the product on the sales floor.

COTTON

Marketing service activities pertaining to cotton were conducted by Louisiana, North Carolina, Virginia, and Missouri. For several years Louisiana has worked with cotton ginners to improve their equipment and methods in order to reduce gin-damaged cotton, with the result that the percentage of such cotton has declined from 12 percent of the total prior to the initiation of the program to less than 2 percent. In North Carolina the same type of work has reduced, over period of years, the percentage of gin-damaged cotton from 16 percent to 1 percent, which the State estimates has increased the income to growers by about $1 million per year. North Carolina also is carrying on a cotton fiber testing program, under which it collects samples each week from 27 ginning and marketing points, conducts the necessary tests, and releases reports which show the fiber length, strength, uniformity, and maturity of cotton produced in various parts of the State. This program provides cotton merchants and mills with information about the quality of cotton available in the different areas, and helps them locate the cotton they desire for specific uses.

The Missouri Department of Agriculture, in cooperation with industry groups, helped to bring about a reduction in freight rates on cotton. These reductions amounted to 50 cents per bale on movements to New Orleans, and ranged from a few cents to $1.30 per bale to mill points in the Southeast. Annual savings resulting from these reductions in the cost of transporting cotton will amount to several hundred thousands of dollars.

SEED

Three States—Alabama, Georgia, and Oregon—are carrying on activities pertaining to seed marketing. This work is concerned with the improvement and maintenance of seed quality through the development and adoption of better handling and processing methods. The program in Alabama has been conducted for several years. Work in this field was initiated in Georgia and Oregon during the year.

OTHER PRODUCTS

The matching fund program also serves the producers of wool, honey, sorghum syrup, dry beans, nuts, and timber products. However, the activities on these miscellaneous commodities are much more restricted than on the commodities discussed above. One of the more effective projects for these commodities is an experimental market news report on timber products, which provides information on sales and prices of various timber products in different parts of Louisiana. This service has been instrumental in increasing the returns to growers of these products in the various sections of the State where the number of outlets available is restricted and growers had not heretofore been in a position to know the market value of their products.

Mr. WHITTEN. Mr. Marshall?

RURAL DEVELOPMENT PROGRAM

Mr. MARSHALL. Are there any funds in your Department used for the rural development program?

Mr. CROW. Not in the sense that you are asking the question, Mr. Marshall, but we have activities that come mighty close to it.

The House Committee on Agriculture, in looking into the problems of the family-size farm, made the comment that it found a great deal of the work under this program to be useful to the family-size farm. In this work there is a great concentration of activity in showing small farmers and handlers how they should grade, pack, and handle products, in providing facilities to bring together the small quantities that are produced by the family-size farm, and in providing marketing information to those people. So while we have no projects labeled in the way that you mention, many of them touch very closely on that field.

WORK ON STRAWBERRY MARKETING IN KENTUCKY

Mr. NATCHER. Mr. Crow, as you well know, some 20 years ago Kentucky was one of the large strawberry producing States. Due to weather changes and other factors that entered into the picture along about that time, the farmers became very much discouraged, and strawberry producing dropped off considerably. I want you to know that in my home State of Kentucky we appreciate the fine work that has been accomplished with strawberries. I notice under your program activities you cite strawberries and what has been done in Kentucky.

You point out, Mr. Crow, that in Kentucky, for instance, the strawberry sales were 536,000 crates in 1956 as against 262,000 in 1955.

The fine work that your division has done with our land-grant college and our State officials has certainly produced results. This is a crop that is marketed at the time that the farmer needs the money, and it has been of great benefit to my State. I want to thank you for your fine statement.

Mr. CROW. Thank you, sir.

Mr. WHITTEN. Mr. Vursell?

Mr. VURSELL. I don't think I have a question. I am always interested in what Mr. Crow has to say as to research. I think as usual he has given a very fine statement today, and I want to commend his activities and his work and that of his Department along this line.

MARKET FACILITIES WORK

Mr. ANDERSEN. Mr. Chairman, I would like to ask one question of Mr. Crow, please.

Where do you have new markets under construction, Mr. Crow, that might be of interest to the committee if we could find the time to go and look them over?

Mr. CROW. During the past year there were new markets under construction or completed in 11 places. In Birmingham, Ala., a food-distribution center has just been completed. Chattanooga, Tenn., and Rochester, N. Y., are others. A new market was opened recently in Raleigh, N. C.

In Atlanta a new market is under construction, consisting of over 200 wholesale houses and spaces under sheds for a thousand farmer trucks and trucks of others who bring in products to sell.

In Philadelphis considerable progress is being made. The city has acquired 400 acres of land for a food-distribution center, the major sewers are being laid, and the site is being graded. A corporation set up for the development of the food center is circulating an informational folder to the industry preparatory to taking leases for the buildings that will be constructed there. In San Juan the site is being prepared. A small market is being built, and part of it already occupied, in Worcester, Mass. There has been an expansion in Miami. Two country point facilities have been built—one in Somerset, Ky., and the other in Blackville, S. C. Those are the major activities on the construction of wholesale market centers during the year. In addition, we gave some assistance to several grain-marketing facilities, livestock auctions, poultry processing and egg assembly plants, and frozen food plants, but these 11 are the facilities I think you have in mind.

Mr. ANDERSEN. Mr. Chairman, the other year Mr. Crow was kind enough to show a few members of this subcommittee, or go with us when we inspected—I believe it was the Philadelphia-New York market, was it not?

Mr. CROW. That is right.

Mr. ANDERSEN. And that was very helpful to me personally and I would like to have the opportunity later in the spring to look over some up-to-date market, Mr. Crow, if you could arrange such a little inspection tour.

Mr. CROW. We shall be glad to.

Mr. WHITTEN. I think this committee does far too little of that, due to the fact that we are tied up all day, in hearings for some 4 months out of the session. I certainly believe in it and hope that we can find an opportunity to make some other ground inspections in connection with your work.

Mr. ANDERSEN. If I recall rightly, Mr. Chairman, we joined with that the other year an inspection of the Eastern Laboratory, did we not, Mr. Crow.

Mr. CROW. That is right. And Plum Island, too, as I recall.

Mr. ANDERSEN. That is right, Plum Island.

Mr. ANDERSEN. In that 2- or 3-day inspection tour we really had the opportunity to see much upon which we have to make decisions here in this subcommittee. And I would like, Mr. Chairman, to suggest at this time that we work up a little 3-day tour of that nature sometime late this spring, when the subcommittee can find the time to take part in it.

Mr. WHITTEN. We will be pleased to have that done, and we express the hope now that we will find time do to it.

Mr. ANDERSEN. Depending on the time, of course.

MATCHED-FUND WORK ON EGG-MARKETING PROBLEMS

Mr. VURSELL. My wife told me last night that she paid 60 cents for eggs per dozen, and I have been receiving some complaints late this fall when I was out in southern Illinois of eggs selling as low as 20 and 25 cents, maybe a little lower. I was wondering if there is anything

in the Marketing Service—I doubt if there is—that can help that situation more than it is being helped? I am wondering why whether or not it is overproduction or whether part of the fault of the consumer paying so much more for eggs than the farmer gets—what might be the cause of that, if you know?

Mr. CROW. We have some projects under the matched fund program that deal directly with this problem. I think part of the reason for the wide margin is that in so many producing areas the eggs are being sold on a current-receipt basis rather than being graded and packed as they should to produce the best income. In Kansas, Oklahoma, and Tennessee, during the past year, extensive work was done in promoting the sales of eggs on a graded basis, and the graded eggs sold at prices of at least 6 cents a dozen higher than the ungraded, and some areas received considerably more than a 6-cent premium.

Many States are working to get egg assembly plants and grading stations established where they are needed. Some are developing country-point market news services in order to acquaint people with the prices they should get, and by so doing are bringing the prices at the country points in line with each other and with terminal market prices. These are merely examples of things that are being done to try to solve that problem.

Mr. WHITTEN. Thank you, Mr. Crow, we are very much interested in your work. We always feel that the program is in good hands when you have charge of it.

Mr. CROW. Thank you.

SCHOOL LUNCH PROGRAM

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Food assistance:			
(a) Cash payments to States	$66,871,676	$83,600,000	$83,600,000
(b) Commodity procurement (sec. 6)	14,825,739	15,000,000	14,962,600
2. Operating expenses	1,089,022	1,400,000	1,437,400
Total obligations	82,786,437	100,000,000	100,000,000
Financing:			
Comparative transfers to other accounts	925		
Unobligated balance no longer available	448,835		
Appropriation	83,236,197	100,000,000	100,000,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
AGRICULTURAL MARKETING SERVICE			
Total number of permanent positions	170	171	169
Average number of all employees	133	163	161
Number of employees at end of year	106	169	167
Average salaries and grades:			
General schedule grades:			
Average salary	$5,294	$5,373	$5,373
Average grade	GS–7.2	GS–7.3	GS–7.5
Ungraded positions: Average salary	$3,836	$3,703	$3,703

Obligations by objects—Continued

		1956 actual	1957 estimate	1958 estimate
	AGRICULTURAL MARKETING SERVICE—continued			
01	Personal services:			
	Permanent positions	$779,248	$941,000	$929,000
	Positions other than permanent	1,538		
	Regular pay above 52-week base	2,250		3,000
	Payment above basic rates	6,168	9,000	8,000
	Total personal services	789,204	950,000	940,000
02	Travel	103,885	128,000	125,000
03	Transportation of things	3,210	6,000	5,000
04	Communication services	20,464	38,000	37,000
05	Rents and utility services	12,777	18,000	17,000
06	Printing and reproduction	14,904	23,000	22,000
07	Other contractual services	12,860	22,800	21,700
	Services performed by other agencies	1,079	62,200	64,200
08	Supplies and materials	9,698	18,000	16,500
09	Equipment	8,843	15,000	13,000
11	Grants, subsidies, and contributions:			
	Cash payments	66,871,676	83,600,000	83,600,000
	Contribution to retirement fund			57,200
13	Refunds, awards, and indemnities	1,430	2,000	2,000
15	Taxes and assessments	394	1,000	1,000
	Total, Agricultural Marketing Service	67,850,424	84,884,000	84,921,600
	ALLOCATION TO COMMODITY STABILIZATION SERVICE			
	Total number of permanent positions	18	26	24
	Average number of all employees	15	23	22
	Number of employees at end of year	9	13	12
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$4,524	$4,578	$4,602
	Average grade	GS–5.4	GS–5.4	GS–5.5
01	Personal services:			
	Permanent positions	$66,237	$101,045	$96,000
	Regular pay above 52-week base	208		400
	Payment above basic rates	547	1,500	
	Total personal services	66,992	102,545	96,400
02	Travel	954	2,000	2,000
03	Transportation of things	233	500	500
04	Communication services	2,319	2,300	2,300
05	Rents and utility services	4,354	4,500	4,500
06	Printing and reproduction	998	1,000	1,000
07	Other contractual services	753	900	900
	Services performed by other agencies	18	125	125
08	Supplies and materials	786	800	800
09	Equipment	550	1,100	945
11	Grants, subsidies, and contributions	14,825,739	15,000,000	14,962,600
	Contribution to retirement fund			6,100
13	Refunds, awards, and indemnities	48	80	80
15	Taxes and assessments	92	150	150
	Total, Commodity Stabilization Service	14,903,836	15,116,000	15,078,400
	ALLOCATION TO AGRICULTURAL RESEARCH SERVICE			
	Total number of permanent positions	9		
	Full-time equivalent of all other positions	1		
	Average number of all employees	7		
	Number of employees at end of year	5		
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,209		
	Average grade	GS–7.0		
	Ungraded positions: Average salary	$3,829		
01	Personal services:			
	Permanent positions	$27,479		
	Positions other than permanent	2,816		
	Regular pay above 52-week base	113		
	Total personal services	30,408		
07	Other contractual services	93		
	Services performed by other agencies	1,676		
	Total, Agricultural Research Service	32,177		
	Total obligations	82,786,437	100,000,000	100,000,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$83, 236, 197	$100, 000, 000	$100, 000, 000
Obligated balance brought forward	480, 470	366, 804	550, 802
Restored from certified claims account		798	
Total budget authorizations available	83, 716, 667	100, 367, 602	100, 550, 802
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	82, 420, 897	99, 500, 000	99, 500, 000
Out of prior authorizations	271, 501	316, 800	500, 000
Total expenditures	82, 692, 398	99, 816, 800	100, 000, 000
Balance no longer available:			
Unobligated (expiring for obligation)	448, 835		
Other	208, 630		
Obligated balance carried forward	366, 804	550, 802	550, 802
Total expenditures and balances	83, 716, 667	100, 367, 602	100, 550, 802

Mr. WHITTEN. We pass on now to the school-lunch program. In connection with that, I would like pages 85 through 95 of the justifications inserted in the record at this point.

(The material referred to is as follows:)

School-lunch program

Appropriation Act, 1957, and base for 1958	$100, 000, 000
Budget estimate, 1958	100, 000, 000

Project statement

Project	1956	1957 (estimated)	Increase (+) or decrease (−), retirement costs (Public Law 854)	1958 (estimated)
1. Food assistance:				
(a) Cash payments to States	$66, 871, 676	$83, 600, 000		$83, 600, 000
(b) Commodity procurement	14, 825, 739	15, 000, 000	[1] −$37, 400	14, 962, 600
2. Operating expenses	1, 089, 022	1, 400, 000	[1] +37, 400	1, 437, 400
Unobligated balance	448, 835			
Total retirement costs (Public Law 854)	[ ]	[ ]	[+65, 300]	[65, 300]
Total available or estimate	83, 235, 272	100, 000, 000		100, 000, 000
Transfer in 1957 estimates to "Salaries and expenses, Office of the Secretary of Agriculture"	925			
Total appropriation or estimate	83, 236, 197			

[1] An additional $37,400 is required in "Operating expenses" to cover part of the costs of the contribution to the retirement fund, with a corresponding reduction in Sec. 6: Commodity Procurement. The total estimated cost of the retirement contribution is $65,300 of which it is planned to absorb $27,900. Any further absorption would reduce the level of operations below the minimum required for effective administration of this program. A full explanation of retirement cost estimates appears in the preface at the beginning of the explanatory notes.

STATUS OF PROGRAM

The school lunch program is designed to—

1. Broaden the market for agricultural food commodities by:

(*a*) Providing an expanded market for agricultural commodities through local purchases of food by school-lunch programs in commercial channels of trade.

(*b*) Serving as a valuable outlet for agricultural commodities purchased by the Department to alleviate local and seasonal surpluses;

(*c*) Expanding the outlet for highly nutritious foods, particularly in areas of nutritional deficiencies;

(*d*) Introducing a wider variety of foods, thus creating a demand for commodities that many housewives would not otherwise buy.

2. Improve the health and well-being of the Nation's children by—

(*a*) Providing them a well-balanced lunch at school to help fill their daily nutritional requirements.

Experience indicates that children who get lunch under this program, compared with those who do not, show:

(1) More rapid gain in weight and height;
(2) Better attendance records;
(3) Improvement in scholastic standing;
(4) Better deportment;
(5) Higher resistance to colds and other illnesses.

(*b*) Developing proper and nutritionally beneficial food habits which will continue in later life.

Current activity under the program includes—

1. Furnishing cash assistance to schools for food purchases by:

(*a*) Apportioning among the States and Territories a minimum of 75 percent of the total funds available on the basis of need as indicated by:

(1) State per capita income compared with United States per capita income;
(2) State population of children 5 to 17 years of age.

(*b*) Paying the apportioned funds to State agencies on a quarterly basis to enable them to reimburse participating schools for a portion of the food costs of lunches served when the schools—

(1) Agree to operate on a nonprofit basis;
(2) Serve meals meeting minimum nutritional standards prescribed by the Secretary of Agriculture;
(3) Offer luncheon to all children attending the school and serve it free or at reduced cost to children who are unable to pay the full cost;
(4) Agree to purchase commodities designated by the Secretary of Agriculture as being in abundance.

(*c*) Paying the funds directly to participating private schools in the 27 States and Hawaii where State laws forbid disbursement of Federal funds by State agencies to private schools. (A proportionate share of the State's total apportionment is set aside for this purpose.)

2. Furnishing food items to schools for lunch programs by distributing to schools through State distributing agencies, commodities acquired under—

(*a*) Section 6, National School Lunch Act. Commodities are purchased on the basis of their nutritional value and acceptability, and distributed to schools participating in the school-lunch program under this act.

(*b*) Removal of surplus agricultural commodities. (Sec. 32.) Surplus commodities are purchased for donation to authorized outlets, including all eligible school lunch programs.

(*c*) Commodity Credit Corporation. Commodities acquired under price-support programs may be donated to authorized outlets, including all eligible school-lunch programs. (Sec. 416, Agricultural Act of 1949, as amended.)

3. Furnishing administrative and technical assistance to State agencies and participating schools with respect to—

(*a*) Management of funds;
(*b*) Purchase and storage of food;
(*c*) Proper use of equipment;
(*d*) Preparation and serving of meals;
(*e*) Maintenance of records and preparation of reports;
(*f*) Development of recipes, particularly to utilize donated and plentiful commodities;
(*g*) Reasons for participation and nonparticipation in program.

4. Making reviews and audits which provide for—
   (*a*) Annual audits of the records of State agencies and selected schools;
   (*b*) Comprehensive administrative analyses of State agencies' operations under the program;
   (*c*) Administrative reviews in individual schools as necessary.

Examples of recent progress and trends

The school-lunch program furnished noonday meals to about one-third of the Nation's 35 million schoolchildren in the fiscal year 1956. This program also utilized 2.7 billion pounds of food, of which 2.3 billion pounds were purchased in local markets and 0.4 billion pounds were donated by the Department.

A. Peak month participation was 10.5 million children in 1956:

Participation in the national school-lunch program, fiscal years 1955 and 1956, by month

Month	Number of schools		Number of children	
	Fiscal year		Fiscal year	
	1955	1956	1955	1956
July	1,414	1,379	170,225	156,726
August	7,644	6,051	877,300	837,266
September	52,464	51,045	9,729,094	9,512,147
October	56,373	53,945	10,671,446	10,215,831
November	58,468	56,140	10,972,245	10,536,029
December	58,692	56,511	10,861,575	10,399,229
January	58,860	56,949	10,647,971	10,304,521
February	59,066	57,088	10,501,844	10,190,974
March	59,485	57,077	10,597,669	10,048,775
April	58,731	56,656	10,277,660	9,723,959
May	54,448	53,007	9,676,572	9,201,658
June	18,981	15,368	3,755,591	3,232,814
Average, September–June	53,557	51,369	9,789,167	9,337,494
Peak number	59,485	57,088	10,972,245	10,536,029
Peak month	March	February	November	November

Year-to-year comparisons in number of schools participating are affected by the school consolidation program.

B. Number of each type of meal served and Federal reimbursement rate:

Item	Number of meals served		Federal reimbursement rates [1]	
	1955 (billion)	1956 (billion)	1955 (average cents)	1956 (preliminary) (average cents)
Type A meal (⅓ to ½ daily nutritional needs)	1.476	1.604	[2] 4.4	[2] 4.0
Type B meal (same as A but in smaller quantities)	.006	.004	[2] 3.1	[2] 3.0
Type C meal (½ pint of milk only)	.325	.119	1.0	1.0
Total	1.807	1.727	3.8	3.9
Meals served free or at reduced prices	.190	.173		

[1] Maximum rate permitted: Type A, 9 cents; type B, 6 cents; type C, 2 cents.
[2] Average rate per complete meal with milk.

C. Method of financing the program:

Item	Fiscal year 1955	Fiscal year 1956	Fiscal year 1957 (estimate)
Federal contribution:			
Direct appropriation school lunch act:			
Cash payments	$69,142,000	$67,145,648	$83,600,000
Section 6	12,830,253	14,802,020	15,000,000
Total	81,972,253	81,947,668	98,600,000
Donated commodities:			
Section 32	26,936,287	65,345,401	119,124,800
Section 416	43,369,550	34,600,803	3,486,400
Total	70,305,837	99,946,204	122,611,200
Special milk program	17,241,055	46,275,072	[1] 60,000,000
Total, Federal contribution	169,519,145	228,168,944	281,211,200
State contribution:			
State and local government contributions	68,991,000	75,000,000	80,000,000
Other local contributions	53,908,000	65,000,000	70,000,000
Payments by children	336,362,000	379,000,000	415,000,000
Total, State and local contributions	459,261,000	[2] 519,000,000	565,000,000
Total	628,780,145	747,168,944	846,211,200

[1] Represents estimated requirements based upon expenditures during fiscal year 1956. Distribution of additional funds to schools is contingent upon justification of need. A total of $75 million is authorized for program including nonprofit child-care institutions.
[2] Preliminary.

D. Benefits to agriculture: Commodities utilized during 1956 in the school-lunch program cost approximately $488.7 million. Of this amount, about $374.0 million was expended by schools locally—both Federal and State funds. The remaining $114.7 million is the estimated cost of 352.1 million pounds of commodities which the Department purchased and distributed to schools under section 6 of the National School Lunch Act, section 32 of the act of 1935, as amended, and section 416 of the Agricultural Act of 1949, as amended.

E. Commodities distributed to the school lunch programs during fiscal years 1955 and 1956:

Program and commodity	Fiscal year 1955		Fiscal year 1956	
	Pounds	Amount	Pounds	Amount
Sec. 6. School lunch Act:				
Apricots			4,229,215	$1,462,463
Beans, canned	8,362,897	$836,290		
Cherries, canned			10,283,744	1,369,795
Grapefruit, canned	12,031,720	1,523,216	17,593,687	2,098,927
Hamburger, frozen			12,245,145	4,192,738
Orange juice, concentrate	5,585,987	997,099	3,656,530	815,406
Peaches, canned	36,161,297	4,520,162		
Peanut butter	5,474,579	1,461,165	5,242,405	1,331,047
Peas, canned	9,428,178	901,334	17,171,111	1,799,532
Tomatoes, canned	20,139,366	1,971,644	17,031,585	1,732,112
Tomato paste	4,706,254	619,343		
Total	101,890,278	[1] 12,830,253	87,453,422	14,802,020
Sec. 32:				
Beans, dry	26,996,847	2,834,669	19,290,686	1,776,672
Beef	25,276,464	10,148,500		
Butter	6,627,461	4,031,484	18,130,716	11,730,573
Cabbage			277,350	6,656
Cheese	5,495,078	2,202,977	10,267,000	4,527,747
Cottonseed oil and shortening	25,662,660	5,774,099	19,394,438	4,021,176
Cranberry sauce, canned	5,667,424	575,810		
Figs, canned	3,361,636	436,004		
Honey	451,665	81,480		
Lard			8,090,810	1,260,548
Milk	4,474,987	850,248	6,803,363	1,251,819
Pork, canned and frozen			64,858,526	38,831,296
Potatoes	43,400	1,016		
Potatoes, sweet			11,101,200	580,593
Prunes			6,215,692	481,716
Rice			7,238,691	876,605
Total	104,057,622	26,936,287	171,668,472	65,345,401

Program and commodity	Fiscal year 1955		Fiscal year 1956	
	Pounds	Amount	Pounds	Amount
Sec. 416:				
Beans			5,423,255	$490,482
Butter	42,174,366	$28,286,347	32,976,898	21,336,053
Cheese	24,779,598	10,543,719	18,696,678	8,245,235
Corn			3,696,458	136,399
Milk	17,994,910	3,510,807	15,301,498	2,815,475
Rice	6,749,851	1,028,677	10,199,107	1,235,112
Wheat			6,728,211	333,047
Total	91,698,725	43,369,550	93,022,105	34,600,803
Grand total	297,646,625	83,136,090	352,143,999	114,748,224

[1] Excludes $5,308 representing loss in shipment and failure to meet specifications.

F. Estimated value of commodities distributed to the school-lunch program fiscal year 1956:

State	Sec. 6	Sec. 32	Sec. 416	Total
Alabama	$480,352	$1,958,709	$1,034,490	$3,473,551
Arizona	117,826	609,715	321,871	949,412
Arkansas	287,796	1,208,599	670,677	2,167,072
California	682,305	3,729,801	2,081,345	6,493,451
Colorado	123,050	589,013	445,142	1,157,205
Connecticut	138,917	598,711	355,561	1,093,189
Delaware	23,989	160,798	42,479	227,266
District of Columbia	17,908	123,971	55,369	197,248
Florida	462,563	1,850,982	855,568	3,169,113
Georgia	590,846	2,197,547	1,101,712	3,890,105
Idaho	96,533	301,166	143,646	541,345
Illinois	538,171	2,420,485	1,434,188	4,392,844
Indiana	393,107	1,294,390	535,825	2,223,322
Iowa	291,135	792,242	448,576	1,531,953
Kansas	177,416	868,511	585,677	1,631,604
Kentucky	412,104	1,771,584	928,832	3,112,520
Louisiana	709,567	2,720,279	1,286,936	4,716,782
Maine	78,855	304,874	154,418	538,147
Maryland	178,007	733,767	297,632	1,209,406
Massachusetts	259,934	1,614,507	924,882	2,799,323
Michigan	373,851	1,529,060	892,598	2,795,509
Minnesota	381,099	1,214,859	696,713	2,292,671
Mississippi	327,044	1,228,378	580,445	2,135,867
Missouri	405,637	1,502,203	594,127	2,501,967
Montana	50,699	228,167	122,363	401,229
Nebraska	86,482	345,009	198,341	629,832
Nevada	12,682	45,050	31,137	88,869
New Hampshire	52,003	261,597	183,371	496,971
New Jersey	182,815	1,629,972	917,118	2,729,905
New Mexico	64,794	683,585	396,014	1,144,393
New York	857,419	4,688,784	1,744,109	7,290,312
North Carolina	756,638	2,825,858	1,325,915	4,908,411
North Dakota	75,284	324,702	165,245	565,231
Ohio	682,664	2,873,806	1,481,899	5,038,369
Oklahoma	267,012	1,689,284	993,628	2,949,924
Oregon	189,270	654,161	395,567	1,238,998
Pennsylvania	519,614	2,907,679	1,402,446	4,829,739
Rhode Island	37,084	205,059	110,285	352,428
South Carolina	405,277	1,486,462	832,183	2,723,922
South Dakota	47,829	207,165	98,800	353,794
Tennessee	519,638	2,316,388	1,296,148	4,132,174
Texas	700,303	3,456,517	1,875,023	6,031,843
Utah	121,330	463,704	224,373	809,407
Vermont	38,372	270,775	95,451	404,598
Virginia	427,846	1,873,508	1,007,691	3,309,045
Washington	271,353	879,054	469,351	1,619,758
West Virginia	236,905	1,119,532	565,927	1,922,364
Wisconsin	239,997	947,440	531,569	1,719,006
Wyoming	33,102	116,474	41,053	190,629
Subtotal	14,424,424	63,723,883	32,973,716	111,122,023
Alaska	3,440	23,514	14,272	41,226
Hawaii	98,858	427,966	217,207	744,031
Puerto Rico	266,020	1,133,726	1,370,853	2,770,599
Virgin Islands	9,278	36,312	24,755	70,345
Subtotal	377,596	1,621,518	1,627,087	3,626,201
Total	14,802,020	65,345,401	34,600,803	114,748,224

National school-lunch program—Apportionment by States of funds available for the national school-lunch program, fiscal year 1957

State	Per capita income in 1954 (United States $1,770) (1)	Per capita income index [1] (2)	Population 5 to 17 years, July 1, 1954 (3)	State index [2] (4)	State quotient (5)	Total apportionment [3] (6)	State agency (7)	Private schools (8)	Matching percent required [4] (9)
Alabama	$1,091	1.62236	827,000	1,341,691.72	0.0329991	$2,758,725	$2,676,957	$81,768	184.91526
Alaska	2,375	.74526	36,000	26,829.36	.0006599	55,168	55,168		300.00000
Arizona	1,582	1.11884	234,000	261,808.56	.0064392	538,317	497,634	40,683	268.13559
Arkansas	979	1.80797	490,000	885,905.30	.0217890	1,821,560	1,784,853	36,707	165.93219
California	2,162	.81869	2,540,000	2,079,472.60	.0511450	4,275,722	4,275,722		300.00000
Colorado	1,686	1.04962	333,000	349,590.06	.0085982	718,810	656,879	61,931	285.76272
Connecticut	2,361	.74968	441,000	330,608.88	.0081314	679,785	679,785		300.00000
Delaware	2,372	.74621	77,000	57,458.17	.0014132	118,144	95,451	22,693	300.00000
District of Columbia	2,220	.79730	148,000	118,000.40	.0029022	242,624	242,624		300.00000
Florida	1,610	1.09938	703,000	772,864.14	.0190087	1,589,127	1,511,095	78,032	272.88135
Georgia	1,237	1.43088	944,000	1,350,750.72	.0332219	2,777,351	2,777,351		209.66103
Guam	1,575	(2.02749)	14,000	28,384.86	.0006981	58,361	49,301	9,060	266.94915
Hawaii	1,704	1.03873	130,000	135,034.90	.0033212	277,652	224,957	52,695	288.81357
Idaho	1,433	1.23517	156,000	192,686.52	.0047392	396,197	382,144	14,053	242.88135
Illinois	2,155	.82135	1,867,000	1,533,460.45	.0377157	3,153,033	3,153,033		300.00000
Indiana	1,834	.96510	943,000	910,089.30	.0223838	1,871,286	1,871,286		300.00000
Iowa	1,667	1.06179	592,000	628,579.68	.0154600	1,292,456	1,149,303	143,153	282.54237
Kansas	1,689	1.04796	438,000	459,006.48	.0112893	943,785	943,785		286.27119
Kentucky	1,216	1.45559	767,000	1,116,437.53	.0274590	2,295,572	2,295,572		206.10168
Louisiana	1,302	1.35945	746,000	1,014,149.70	.0249432	2,085,252	2,085,252		220.67796
Maine	1,492	1.18633	207,000	245,570.31	.0060398	504,927	426,097	78,830	252.88137
Maryland	1,940	.91237	572,000	521,875.64	.0128356	1,073,056	891,679	181,377	300.00000
Massachusetts	1,922	.92092	975,000	897,897.00	.0220839	1,846,214	1,846,214		300.00000
Michigan	2,017	.87754	1,573,000	1,380,370.42	.0339504	2,838,253	2,396,035	442,218	300.00000
Minnesota	1,644	1.07664	710,000	764,414.40	.0188009	1,571,755	1,312,779	258,976	278.64408
Mississippi	873	2.02749	600,000	1,216,494.00	.0299199	2,501,304	2,501,304		147.96609
Missouri	1,747	1.01317	846,000	857,141.82	.0210815	1,762,413	1,762,413		296.10168
Montana	1,729	1.02371	147,000	150,485.37	.0037012	309,420	274,814	34,606	293.05086
Nebraska	1,635	1.08257	297,000	321,523.29	.0079079	661,100	582,075	79,025	277.11864
Nevada	2,414	.73322	43,000	31,528.46	.0007754	64,823	61,276	3,547	300.00000
New Hampshire	1,605	1.10280	118,000	130,130.40	.0032006	267,570	267,570		272.03391
New Jersey	2,219	.79766	1,046,000	834,352.36	.0205210	1,715,556	1,336,932	378,624	300.00000
New Mexico	1,387	1.27614	214,000	273,093.96	.0067168	561,525	561,525		235.08474
New York	2,163	.81831	3,024,000	2,474,569.44	.0608624	5,088,097	5,088,097		300.00000
North Carolina	1,190	1.48739	1,123,000	1,670,338.97	.0410822	3,434,472	3,434,472		201.69492
North Dakota	1,186	1.49241	159,000	237,293.19	.0058363	487,915	438,147	49,768	201.01695
Ohio	1,983	.89259	1,866,000	1,665,572.94	.0409650	3,424,674	2,892,392	532,282	300.00000
Oklahoma	1,466	1.20737	527,000	636,283.99	.0156495	1,308,298	1,308,298		248.47458
Oregon	1,757	1.00740	359,000	361,656.60	.0088950	743,622	743,622		297.79662
Pennsylvania	1,785	.99160	2,315,000	2,295,554.00	.0564595	4,720,014	3,765,840	954,174	300.00000
Puerto Rico	435	(2.02749)	781,000	1,583,469.69	.0389457	3,255,861	3,255,861		73.72881

Rhode Island	1,823	.97093	164,000	159,232.52	.0039163	327,403	327,403		300.00000
South Carolina	1,063	1.66510	646,000	1,075,654.60	.0264559	2,211,713	2,181,656	30,057	180.16950
South Dakota	1,332	1.32883	159,000	211,283.97	.0051966	434,436	390,159	44,277	225.76272
Tennessee	1,212	1.46040	846,000	1,235,498.40	.0303873	2,540,378	2,466,700	73,678	205.42374
Texas	1,574	1.12452	2,027,000	2,279,402.04	.0560623	4,686,808	4,686,808		266.77965
Utah	1,483	1.19353	200,000	238,706.00	.0058710	490,816	483,392	7,424	251.35593
Vermont	1,408	1.25710	89,000	111,881.90	.0027518	230,051	230,051		238.64406
Virginia	1,480	1.19595	849,000	1,015,361.55	.0249730	2,087,743	1,991,567	96,176	250.84746
Virgin Islands	530	(2.02749)	8,600	17,436.41	.0004289	35,856	35,856		89.83050
Washington	1,949	.90816	553,000	502,212.48	.0123520	1,032,627	950,175	82,452	300.00000
West Virginia	1,232	1.43669	530,000	761,445.70	.0187279	1,565,652	1,524,467	41,185	208.81356
Wisconsin	1,706	1.03751	806,000	836,233.06	.0205673	1,719,426	1,307,228	412,198	289.15254
Wyoming	1,779	.99494	72,000	71,635.68	.0017619	147,295	147,295		300.00000
Total			36,877,600	40,658,409.89	1.0000000	83,600,000	79,278,351	4,321,649	

[1] United States per capita income ($1,770) divided by State per capita income, except for Guam, Puerto Rico, and the Virgin Islands which are assigned the same per capita income index as Mississippi in accordance with the amendment to sec. 4 of the National School Lunch Act. This amendment provides that the apportionment to Guam, Puerto Rico, and the Virgin Islands shall not exceed 3 percent of the funds appropriated except that in the case of the first apportionment from any annual or supplemental appropriation, the apportionment to Guam, Puerto Rico, and the Virgin Islands shall not be less than that amount which will result in an allotment per child of school age equal to the allotment per child of school age in the State (other than Guam, Puerto Rico, and the Virgin Islands) having the lowest per capita income among the States participating in such 1st apportionments.

[2] Per capita income index multiplied by population of ages 5–17, inclusive.

[3] Total of funds apportioned multiplied by State quotients. Under the National School Lunch Act, as amended, not less than 75 percent of the total funds available must be apportioned to the States and Territories. Breakdown between State agency and private schools is based on relative enrollment in public and nonprofit private schools as provided in sec. 10 of the National School Lunch Act for any State in which the State educational agency by law is not permitted to disburse funds paid to it under this act to nonprofit private schools.

[4] According to sec. 7 of the National School Lunch Act, during fiscal 1957 each State must match $3 for each dollar of the Federal Government's apportionment to the State, except that, in the case of a State in which the per capita income is below that of the United States, the matching ratio required is decreased by the percentage which the State's per capita income is below the per capita income of the United States. The actual amount of funds required for matching is then determined by taking this percentage of the amount of the total Federal apportionment to the State.

National school lunch program—Number of children and schools participating, fiscal year 1956

State	Children in elementary and secondary schools			Elementary and secondary schools participating [2]
	Total enrollment [1]	Number participating [2]	Percent participation	
	(1)	(2)	(3)	(4)
Northeast:				
Connecticut	460,297	87,597	19.0	442
Delaware	75,524	14,322	19.0	95
District of Columbia	127,704	52,087	40.8	183
Maine	208,361	52,207	25.1	409
Maryland	566,856	128,718	22.7	639
Massachusetts	946,517	198,021	20.9	940
New Hampshire	115,701	31,337	27.1	295
New Jersey	1,060,211	120,414	11.4	707
New York	3,094,987	1,218,931	39.4	3,838
Pennsylvania	2,216,574	379,362	17.1	1,736
Rhode Island	159,112	25,353	15.9	135
Vermont	81,071	22,574	27.8	277
West Virginia	460,242	152,694	33.2	1,547
Area total	9,573,157	2,483,617	25.9	11,333
Southeast:				
Alabama	741,971	299,109	40.3	1,423
Florida	682,717	297,237	43.5	997
Georgia	938,372	363,576	38.7	1,551
Kentucky	655,403	257,017	39.2	1,206
Mississippi	558,176	206,653	37.0	1,090
North Carolina	1,041,963	489,076	46.9	1,566
South Carolina	537,087	257,236	47.9	1,070
Tennessee	750,224	324,602	43.3	1,933
Virginia	758,540	267,133	35.2	1,287
Area total	6,664,453	2,761,639	41.4	12,213
Midwest:				
Illinois	1,875,891	384,831	20.5	2,558
Indiana	928,529	248,896	26.8	1,193
Iowa	583,179	193,826	33.2	1,069
Michigan	1,613,742	273,394	16.9	1,444
Minnesota	707,419	251,882	35.6	1,475
Missouri	862,272	266,006	30.8	2,298
Nebraska	284,897	57,032	20.0	419
North Dakota	137,165	48,258	35.2	801
Ohio	1,828,992	459,118	25.1	1,891
South Dakota	149,344	31,006	20.8	297
Wisconsin	793,275	171,108	21.6	1,719
Area total	9,764,705	2,385,357	24.4	15,164
Southwest:				
Arkansas	426,834	182,560	42.8	992
Colorado	323,743	88,230	27.3	664
Kansas	474,408	116,814	24.6	1,021
Louisiana	701,441	461,637	65.8	1,606
New Mexico	202,767	44,813	22.1	298
Oklahoma	483,206	168,805	34.9	1,763
Texas	1,855,367	476,103	25.7	2,693
Area total	4,467,766	1,538,971	34.4	8,997
Western:				
Arizona	212,092	78,565	37.0	324
California	2,668,684	466,354	17.5	2,674
Idaho	142,563	54,435	38.2	437
Montana	138,671	38,596	27.8	434
Nevada	48,858	7,789	15.9	71
Oregon	362,101	116,132	32.1	675
Utah	196,054	75,999	38.8	383
Washington	557,277	172,998	31.0	978
Wyoming	74,948	20,850	27.8	127
Area total	4,401,248	1,031,718	23.4	6,103
Total continental United States	34,871,329	10,201,302	29.3	53,810

See footnotes at end of table, p. 981.

National school lunch program—Number of children and schools participating, fiscal year 1956—Continued

State	Children in elementary and secondary schools			Elementary and secondary schools participating [2]
	Total enrollment [1]	Number participating [2]	Percent participation	
	(1)	(3)	(3)	(4)
Territories:				
Alaska	30,237	3,067	10.1	21
Hawaii	149,262	85,663	57.4	175
Puerto Rico	577,936	241,092	41.7	2,102
Virgin Islands	7,681	4,913	64.0	33
Total Territories	765,116	334,735	43.7	2,331
Total United States and Territories	35,636,445	10,536,037	29.6	36,141

[1] Source: Latest data available from the U. S. Office of Education. Enrollment data for public schools is for 1955-56 except for North Dakota and Virgin Islands for which 1953-54 data is used. Private school enrollment is for 1953-54.

[2] November 1955. The number of schools and children may have been higher in some States during other months but November was the peak month in terms of children participating nationally.

STATUS OF THE SPECIAL MILK PROGRAM

Authority

The special school milk program which was initially authorized to operate in nonprofit schools of high-school grade and under became the special milk program late in fiscal year 1956 when Congress enacted legislation to expand the program to include nonprofit nursery schools, child-care centers, settlement houses, summer camps, and similar nonprofit institutions devoted to the care and training of children. The program was extended through fiscal year 1958 with authorized funds increased to $60 million for fiscal year 1956 and $75 million for the years 1957 and 1958.

Purpose

The primary objective of the program is to increase the consumption of fluid milk by children of school age and, thereby, help to reduce the movement of manufactured dairy products into CCC inventories.

Operation

1. Assistance is provided, in the form of reimbursement payments, to eligible schools and child-care institutions to help them to inaugurate a milk service or to expand the existing service through reducing prices to children and establishing new times of service.

(*a*) For schools and child-care institutions which offer milk as a separately priced item to children, the amount of reimbursement provided, within the established maximum rate, depends upon the amount by which the school or institution reduces the selling price to children and the cost of handling milk within the school or institutions.

(*b*) For schools and institutions that do not offer milk to children as a separately priced item, the amount of reimbursement provided, within the established maximum rate, is related to the cost of the additional milk served to children.

2. The maximum reimbursement to national school lunch program schools is 4 cents for each half pint served in excess of the half pint served by schools as a part of the type A or B lunches, and 3 cents per half pint for all other schools.

3. The maximum reimbursement to camps and child-care institutions is 3 cents for each half pint served. The actual rate assigned, within this maximum, will be at a level which will reimburse the participating agency up to the cost of the additional milk served to children.

4. Provisions have been established to insure that maximum use of the reimbursement payments is made to reduce the price of milk to children as a means of encouraging increased consumption. Schools, camps, and child-care institutions where milk is not offered to children as a separately priced item must submit for approval the specific methods and practices by which they will increase milk consumption under the program.

5. The program is administered within the States by the State agencies to the greatest extent possible. Funds for reimbursement payments are advanced to State agencies in amounts consistent with anticipated program needs.

Accomplishments

During the first year of operation (1954–55) over 8.6 million children in over 41,000 schools participated in the consumption of about 450 million additional half pints of milk over the normal consumption of the schools participating. In the second year of operation (1955–56) about 1.4 billion half pints of milk were served to children in over 62,000 schools participating in the program.

Special school milk program—Number of half pints of milk reimbursed

Month	Fiscal year	
	1955	1956
July		685,000
August		1,969,000
September	18,698	104,518,000
October	9,656,795	163,841,000
November	39,008,060	156,426,000
December	42,072,079	118,722,000
January	68,341,692	167,574,000
February	70,170,601	168,703,000
March	86,295,453	163,223,000
April	64,896,773	157,704,000
May	59,849,202	155,883,000
June	9,500,599	40,695,000
Total	449,809,952	1,399,943,000

The following table I reports the operations for 1956 and table II the estimated obligations for the 1957 fiscal year.

TABLE I.—*Special milk programs—Preliminary report of special school milk program operations, fiscal year 1956*

State	Number of schools participating (March-Peak Month)	Estimated number of half pints of milk reimbursed (Thousand)	Estimated Federal expenditures
Alabama	1,361	23,946	$928,012
Arizona	325	7,466	257,128
Arkansas	947	15,144	598,424
California	4,269	145,322	3,994,000
Colorado	748	11,460	398,641
Connecticut	506	11,649	375,000
Delaware	105	4,071	151,293
District of Columbia	182	7,846	185,200
Florida	970	24,280	687,484
Georgia	1,217	18,226	664,682
Idaho	327	5,159	185,309
Illinois	3,814	109,582	3,776,000
Indiana	1,177	29,467	1,060,000
Iowa	1,567	33,014	1,210,793
Kansas	907	14,488	505,900
Kentucky	1,180	23,307	894,500
Louisiana	697	7,512	299,650
Maine	716	7,137	241,321
Maryland	839	24,215	903,196
Massachusetts	2,096	62,637	2,114,700
Michigan	3,752	88,897	2,687,639
Minnesota	2,156	44,019	1,546,816
Mississippi	919	15,547	607,095
Missouri	2,518	36,504	1,369,008
Montana	251	3,527	119,028
Nebraska	520	8,192	286,779
Nevada	61	1,332	41,741
New Hampshire	306	3,532	123,877
New Jersey	1,094	29,961	1,033,753
New Mexico	376	7,168	249,423
New York	3,614	162,633	4,275,000
North Carolina	1,818	25,447	930,501
North Dakota	345	4,656	175,224
Ohio	2,640	82,452	2,767,926
Oklahoma	893	14,107	479,089
Oregon	567	8,887	304,000
Pennsylvania	3,368	57,140	1,873,271
Rhode Island	282	5,721	200,620
South Carolina	772	7,579	285,512
South Dakota	305	6,180	209,443
Tennessee	2,192	36,461	1,285,157
Texas	1,877	38,050	1,422,496
Utah	282	2,257	89,175
Vermont	350	3,150	112,934
Virginia	1,261	26,312	992,224
Washington	1,018	23,533	910,856
West Virginia	361	7,833	291,093
Wisconsin	3,846	60,560	2,084,358
Wyoming	128	2,378	89,801
Total	62,322	1,399,943	46,275,072

TABLE II.—*Special milk program—Preliminary estimated division of funds, fiscal year 1957*

State	Total available	To State agencies	To individual outlets
Alabama	$1,206,140	$1,170,000	$36,140
Alaska	36,000	36,000	
Arizona	330,344	275,874	54,470
Arkansas	778,047	753,867	24,180
California	5,192,200	5,192,200	
Colorado	519,006	472,206	46,800
Connecticut	487,500	487,500	
Delaware	203,350	190,220	13,130
District of Columbia	240,760	240,760	
Florida	893,360	832,000	61,360
Georgia	864,110	862,030	2,080
Hawaii	130,000	105,328	24,672
Idaho	239,850	223,860	15,990
Illinois	4,908,800	4,908,800	
Indiana	1,378,000	1,378,000	
Iowa	1,574,696	1,402,446	172,250
Kansas	657,670	657,670	
Kentucky	1,162,850	1,162,850	
Louisiana	389,545	389,545	
Maine	317,673	258,393	59,280
Maryland	1,182,067	1,085,867	96,200
Massachusetts	2,749,110	2,749,110	
Michigan	3,495,772	2,973,952	521,820
Minnesota	2,011,230	1,763,060	248,170
Mississippi	906,620	906,620	
Missouri	1,779,710	1,779,710	
Montana	154,216	130,946	23,270
Nebraska	372,810	320,030	52,780
Nevada	53,075	46,705	6,370
New Hampshire	161,040	161,040	
New Jersey	1,338,350	1,206,270	132,080
New Mexico	324,250	324,250	
New York	5,859,900	5,859,900	
North Carolina	1,209,651	1,209,651	
North Dakota	228,020	193,960	34,060
Ohio	3,787,023	3,325,133	461,890
Oklahoma	622,816	622,816	
Oregon	395,200	395,200	
Pennsylvania	2,452,973	2,148,773	304,200
Rhode Island	260,806	260,806	
South Carolina	370,890	352,560	18,330
South Dakota	272,350	239,200	33,150
Tennessee	1,752,890	1,677,360	75,530
Texas	1,849,245	1,849,245	
Utah	134,919	117,369	17,550
Vermont	146,814	146,814	
Virginia	1,289,713	1,227,053	62,660
Washington	1,178,580	1,105,000	73,580
West Virginia	374,488	354,208	20,280
Wisconsin	2,710,396	2,157,636	552,760
Wyoming	116,741	116,741	
Unallocated [1]	13,948,434		
Total	75,000,000	57,806,534	3,245,032

[1] Available for allotment when needs are justified.

Mr. WHITTEN. We would be gald to have the general statement from the Administrator.

Mr. WELLS. That is in Mr. Lennartson's field.

GENERAL STATEMENT

Mr. LENNARTSON. Thank you. I would like to point out at the outset that this past fall represented the 10th anniversary of this act, and we think frankly that the record of progress under this program is quite a tribute to this committee, to the Congress, to the Nation's school people. A tremendous job has been done in this 10-year period in building a program which is furnishing lunches, fine nutritious lunches, to nearly 11 million children daily throughout the school

year, touching upon some 57,000 schools—a program which has expanded to where it is approaching a billion dollar program, a large part of which represents additional outlets for agricultural commodities.

I think tribute should likewise go to the States for the tremendous amount of work and activity that they have carried on, particularly amongst the school people in making this the fine program that it is.

We are not requesting any increase in the appropriation this year over that permitted last year, of $100 million. Incidentally, the increase in appropriation last year did much to increase the per-lunch reimbursement cost to the schools, increasing it from below 4 cents up to better than 4 cents this year, in fact it is estimated it may be about 4.4 cents.

The program is continuing to expand slowly, with consolidations of schools, with better facilities for serving lunches being constructed in new schools, and modified in old ones.

This year section 32 and surplus foods have been provided the schools probably on a broader basis than any other in the past years, and will probably reach a record in total volume and value.

Mr. WHITTEN. I hate to interrupt you in connection with your statement, but I believe it would be well to put this in the record at this point.

SOURCE OF FUNDS AND BASIC LEGISLATION

I would like for the record to show the source of funds for the school-lunch program, the source of funds and commodities. In that connection, I would like to have the pertinent parts of the various laws which have contributed to the sum total, that goes to the school-lunch program. By that I mean the Surplus Milk Act, and the section 32 act, as well as the appropriation and such other legislation, so that the record at this point would show the various sources of the contributions to the overall school-lunch program.

Mr. LENNARTSON. We have that readily available, and will see that it goes into the record.

(The material referred to is as follows:)

Summary of financing the school-lunch program fiscal years 1956–57

Items	1956 actual	1957 revised estimate
State contribution:		
Payments by children	$377,212,000	$415,000,000
Direct appropriations (State and local)	65,427,000	70,000,000
Other local contributions	72,335,000	77,000,000
Total, State contribution	[1] 514,974,000	562,000,000
Federal contribution:		
Cash payments (apportionment)	67,145,648	83,600,000
Commodity distribution:		
Sec. 6	14,802,020	15,000,000
Sec. 32	65,345,401	115,500,000
Sec. 416	34,600,803	10,000,000
Special milk program [2]	46,275,072	60,000,000
Total, Federal contribution	228,168,944	284,100,000
Total	743,142,944	846,100,000

[1] Final, based on State reports.
[2] Authorized from CCC funds to be used to increase the consumption of fluid milk.

National School Lunch Act

(Public Law 396, 79th Cong., June 4, 1946, 60 Stat. 231 as amended by Public Law 518, 82d Cong., July 12, 1952, 66 Stat. 591)

This is the basic authority for the national school lunch program and provides for assistance to the States in the establishment, maintenance, operation, and expansion of school lunch programs and for other purposes.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That this Act may be cited as the "National School Lunch Act."

"DECLARATION OF POLICY

"SEC. 2. It is hereby declared to be the policy of Congress, as a measure of national security, to safeguard the health and well-being of the Nation's children, and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting the States, through grants-in-aid and other means, in providing an adequate supply of foods and other facilities for the establishment, maintenance, operation, and expansion of nonprofit school lunch programs.

"APPROPRIATIONS AUTHORIZED

"SEC. 3. For each fiscal year, beginning with the fiscal year ending June 30, 1947, there is hereby authorized to be appropriated, out of money in the Treasury not otherwise appropriated, such sums as may be necessary to enable the Secretary of Agriculture (hereinafter referred to as 'the Secretary') to carry out the provisions of this Act.

"APPORTIONMENTS TO STATES

"SEC. 4. The sums appropriated for any fiscal year pursuant to the authorization contained in section 3 of this Act, excluding the sum specified in section 5, shall be available to the Secretary for supplying, during each fiscal year, agricultural commodities and other foods for the school lunch program in accordance with the provisions of this Act. The Secretary shall apportion among the States during each fiscal year not less than 75 per centum of the aforesaid funds made available for such year for supplying agricultural commodities and other foods under the provisions of this Act. The total of such apportionments of funds for use in Puerto Rico, Guam, and the Virgin Islands shall not exceed 3 per centum of the funds appropriated for agricultural commodities and other foods for the school lunch program; except that in the case of the first apportionments of funds from any annual or supplemental appropriation (and only in such case), the apportionment for Puerto Rico, the apportionment for Guam, and the apportionment for the Virgin Islands, shall be not less than that amount which will result in an allotment per child of school age equal to the allotment per child of school age in the State (other than Puerto Rico, Guam, and the Virgin Islands) having the lowest per capita income among the States participating in such first apportionments. Apportionment among the States shall be made on the basis of two factors: (1) The number of schoolchildren in the State and (2) the need for assistance in the State as indicated by the relation of the per capita income in the United States to the per capita income in the State. The amount of the initial apportionment to any State shall be determined by the following method: First, determine an index for the State by multiplying factors (1) and (2); second, divide this index by the sum of the indices for all the States; and, finally, apply the figure thus obtained to the total funds to be apportioned. For the purpose of this section, the number of schoolchildren in the State shall be the number of children therein between the ages of five and seventeen, inclusive; such figures and per capita income figures shall be the latest figures certified by the Department of Commerce. For the purposes of this Act, 'school' means any public or nonprofit private school of high-school grade or under and, with respect to Puerto Rico, shall also include nonprofit child-care centers certified as such by the Governor of Puerto Rico. If any State cannot utilize all funds so apportioned to it, or if additional funds are available under this Act for apportionment among the States, the Secretary shall make further apportionments to the remaining States in the same manner.

"SEC. 5. Of the sums appropriated for any fiscal year pursuant to the authorization contained in section 3 of this Act, $10,000,000 shall be available to the Secretary for the purpose of providing, during such fiscal year, nonfood assistance for the school lunch program pursuant to the provisions of this Act. The Secre-

tary shall apportion among the States during each fiscal year the aforesaid sum of $10,000,000, and such apportionment among the States shall be on the basis of the factors, and in accordance with the standards, set forth in section 4 with respect to the apportionment for agricultural commodities and other foods. Apportionments of funds for use in Puerto Rico, Guam, and the Virgin Islands for nonfood assistance shall be determined subject to the provisions of the third sentence of section 4.

"DIRECT FEDERAL EXPENDITURES

"SEC. 6. The funds appropriated for any fiscal year for carrying out the provisions of this Act, less not to exceed 3½ per centum thereof hereby made available to the Secretary for his administrative expenses and less the amount apportioned by him pursuant to sections 4, 5, and 10, shall be available to the Secretary during such year for direct expenditure by him for agricultural commodities and other foods to be distributed among the States and schools participating in the school lunch program under this Act in accordance with the needs as determined by the local school authorities. The provisions of law contained in the proviso of the Act of June 28, 1937 (50 Stat. 323), facilitating operations with respect to the purchase and disposition of surplus agricultural commodities under section 32 of the Act approved August 24, 1935 (49 Stat. 774), as amended, shall, to the extent not inconsistent with the provisions of this Act, also be applicable to expenditures of funds by the Secretary under this Act.

"PAYMENTS TO STATES

"SEC. 7. Funds apportioned to any State pursuant to section 4 or 5 during any fiscal year shall be available for payment to such State for disbursement by the State educational agency, in accordance with such agreements not inconsistent with the provisions of this Act, as may be entered into by the Secretary and such State educational agency, for the purpose of assisting schools of that State during such fiscal year, in supplying (1) agricultural commodities and other foods for consumption by children and (2) nonfood assistance in furtherance of the school lunch program authorized under this Act. Such payments to any State in any fiscal year during the period 1947 to 1950, inclusive, shall be made upon condition that each dollar thereof will be matched during such year by $1 from sources within the State determined by the Secretary to have been expended in connection with the school lunch program under this Act. Such payments in any fiscal year during the period 1951 to 1955, inclusive, shall be made upon condition that each dollar thereof will be so matched by one and one-half dollars; and for any fiscal year thereafter, such payments shall be made upon condition that each dollar will be so matched by $3. In the case of any State whose per capita income is less than the per capita income of the United States, the matching required for any fiscal year shall be decreased by the percentage which the State per capita income is below the per capita income of the United States. For the purpose of determining whether the matching requirements of this section and section 10, respectively, have been met, the reasonable value of donated services, supplies, facilities, and equipment as certified, respectively, by the State educational agency and in case of schools receiving funds pursuant to section 10, by such schools (but not the cost or value of land, of the acquisition, construction, or alteration of buildings of commodities donated by the Secretary, or of Federal contributions), may be regarded as funds from sources within the State expended in connection with the school lunch program. The Secretary shall certify to the Secretary of the Treasury from time to time the amounts to be paid to any State under this section and the time or times such amounts are to be paid; and the Secretary of the Treasury shall pay to the State at the time or times fixed by the Secretary the amounts so certified.

"STATE DISBURSEMENT TO SCHOOLS

"SEC. 8. Funds paid to any State during any fiscal year pursuant to section 4 or 5 shall be disbursed by the State educational agency, in accordance with such agreements approved by the Secretary as may be entered into by such State agency and the schools in the State, to those schools in the State which the State educational agency, taking into account need and attendance, determines are eligible to participate in the school lunch program. Such disbursement to any school shall be made only for the purpose of reimbursing it for the cost of obtaining agricultural commodities and other foods for consumption by children in the school lunch program and nonfood assistance in connection with such program.

Such food costs may include, in addition to the purchase price of agricultural commodities and other foods, the cost of processing, distributing, transporting, storing, or handling thereof. In no event shall such disbursement for food to any school for any fiscal year exceed an amount determined by multiplying the number of lunches served in the school in the school lunch program under this Act during such year by the maximum Federal food-cost contribution rate for the State, for the type of lunch served, as prescribed by the Secretary.

"NUTRITIONAL AND OTHER PROGRAM REQUIREMENTS

"SEC. 9. Lunches served by schools participating in the school lunch program under this Act shall meet minimum nutritional requirements prescribed by the Secretary on the basis of tested nutritional research. Such meals shall be served without cost or at a reduced cost to children who are determined by local school authorities to be unable to pay the full cost of the lunch. No physical segregation of or other discrimination against any child shall be made by the school because of his inability to pay. School lunch programs under this Act shall be operated on a nonprofit basis. Each school shall, insofar as practicable, utilize in its lunch program commodities designated from time to time by the Secretary as being in abundance, either nationally or in the school area, or commodities donated by the Secretary. Commodities purchased under the authority of section 32 of the Act of August 24, 1935 (49 Stat. 774), as amended, may be donated by the Secretary to schools, in accordance with the needs as determined by local school authorities, for utilization in the school lunch program under this Act as well as to other schools carrying out nonprofit school lunch programs and institutions authorized to receive such commodities.

"SEC. 10. If, in any State, the State educational agency is not permitted by law to disburse the funds paid to it under this Act to nonprofit private schools in the State, or is not permitted by law to match Federal funds made available for use by such nonprofit private schools, the Secretary shall withhold from the funds apportioned to any such State under sections 4 and 5 of this Act the same proportion of the funds as the number of children between the ages of five and seventeen, inclusive, attending nonprofit private schools within the State is of the total number of persons of those ages within the State attending school. The Secretary shall disburse the funds so withheld directly to the nonprofit private schools within said State for the same purposes and subject to the same conditions as are authorized or required with respect to the disbursements to schools within the State by the State educational agency, including the requirement that any such payment or payments shall be matched, in the proportion specified in section 7 for such State, by funds from sources within the State expended by nonprofit private schools within the State participating in the school lunch program under this Act. Such funds shall not be considered a part of the funds constituting the matching funds under the terms of section 7.

"MISCELLANEOUS PROVISIONS AND DEFINITIONS

"SEC. 11. (a) States, State educational agencies, and schools participating in the school lunch program under this Act shall keep such accounts and records as may be necessary to enable the Secretary to determine whether the provisions of this Act are being complied with. Such accounts and records shall at all times be available for inspection and audit by representatives of the Secretary and shall be preserved for such period of time, not in excess of five years, as the Secretary determines is necessary.

"(b) The Secretary shall incorporate, in his agreements with the State educational agencies, the express requirements under this Act with respect to the operation of the school lunch program under this Act insofar as they may be applicable and such other provisions as in his opinion are reasonably necessary or appropriate to effectuate the purposes of this Act.

"(c) In carrying out the provisions of this Act, neither the Secretary nor the State shall impose any requirement with respect to teaching personnel, curriculum, instruction, methods of instruction, and materials of instruction in any school. If a State maintains separate schools for minority and for majority races, no funds made available pursuant to this Act shall be paid or disbursed to it unless a just and equitable distribution is made within the State, for the benefit of such minority races, of funds paid to it under this Act.

"(d) For the purposes of this Act—

"(1) 'State' includes any of the forty-eight States and the District of Columbia, Hawaii, Alaska, Puerto Rico, Guam, and the Virgin Islands.

"(2) 'State educational agency' means, as the State legislature may determine, (a) the chief State school officer (such as the State superintendent of public instruction, commissioner of education, or similar officer), or (b) a board of education controlling the State department of education; except that in the District of Columbia it shall mean the Board of Education, and except that for the period ending June 30, 1948, 'State educational ageney' may mean any agency or agencies within the State designated by the Governor to carry out the functions herein required of a State educational agency.

"(3) 'Nonprofit private school' means any private school exempt from income tax under section 101 (6) of the Internal Revenue Code, as amended.

"(4) 'Nonfood assistance' means equipment used on school premises in storing, preparing, or serving food for schoolchildren."

AUTHORITIES WHICH PROVIDE FOR THE DONATION OF SURPLUS FOODS TO THE NATIONAL SCHOOL LUNCH PROGRAM

Section 32: See section 9 of the National School Lunch Act quoted above.

AGRICULTURAL ACT OF 1949, AS AMENDED BY THE AGRICULTURAL TRADE DEVELOPMENT AND ASSISTANCE ACT OF 1954 AND THE AGRICULTURAL ACT OF 1956

"SEC. 416. In order to prevent the waste of commodities acquired through price-support operations by the Commodity Credit Corporation before they can be disposed of in normal domestic channels without impairment of the price-support program or sold abroad at competitive world prices, the Commodity Credit Corporation is authorized, on such terms and under such regulations as the Secretary may deem in the public interest: * * * (3) in the case of food commodities to donate such commodities * * * for use in the United States in nonprofit school lunch programs * * *. In the case of (3) * * * above the Secretary shall obtain such assurance as he deems necessary that the recipients thereof will not diminish their normal expenditures for food by reason of such donation. In order to facilitate the appropriate disposal of such commodities, the Secretary may from time to time estimate and announce the quantity of such commodities which he anticipates will become available for distribution under (3) * * * above. The Commodity Credit Corporation may pay, with respect to commodities disposed of under this section, reprocessing, packaging, transporting, handling, and other charges accruing up to the time of their delivery to a Federal agency or to the designated State or private agency, in the case of commodities made available for use within the United States, * * *. In addition, in the case of food commodities disposed of under this section, the Commodity Credit Corporation may pay the cost of processing such commodities into a form suitable for home or institutional use, * * *."

SPECIAL MILK PROGRAM

(Agricultural Act of 1949, as amended by Public Law 465, 84th Cong., April 2, 1956, 68 Stat. 899; and Public Law 725, 84th Cong., July 20, 1956, 70 Stat. 596)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the last sentence of section 201 (c) of the Agricultural Act of 1949, as amended, is amended to read as follows: "For the period beginning September 1, 1954, and ending June 30, 1955, not to exceed $50,000,000, and for the fiscal year ending June 30, 1956, not to exceed $60,000,000, and for each of the two fiscal years in the period beginning July 1, 1956, and ending June 30, 1958, not to exceed $75,000,000, of the funds of the Commodity Credit Corporation shall be used to increase the consumption of fluid milk by children in (1) nonprofit schools of high-school grade and under; and in (2) nonprofit nursery schools, child-care centers, settlement houses, summer camps, and similar nonprofit institutions devoted to the care and training of children."

DISTRIBUTION OF COMMODITIES TO SCHOOLS

Mr. WHITTEN. In that connection, I would like to know what commodities you have had this year, and from what source. That

would include section 32 funds, the school milk fund, and any other source.

Mr. LENNARTSON. Section 6, and so forth.

Mr. WELLS. Section 416, Mr. Chairman.

(The material referred to is as follows:)

Distribution of commodities to schools fiscal year 1956 and 1st half of 1957

[In millions]

Fund and commodity	Fiscal year 1956		1st half fiscal year 1957	
	Pounds	Dollars	Pounds	Dollars
Sec. 6:				
Apricots	4.2	$1.5		
Beans, canned			16.0	$1.8
Cherries, canned	10.3	1.4		
Corn, canned			.3	(1)
Grapefruit, canned	17.6	2.1		
Hamburger, frozen	12.2	4.2		
Orange juice, concentrate	3.7	.8	3.7	.8
Peaches			25.4	3.2
Peanut butter	5.2	1.3	4.4	1.1
Peas, canned	17.2	1.8		
Plums, canned			2.0	.2
Tomatoes, canned	17.0	1.7	20.9	2.0
Tomato paste			3.2	.4
Total sec. 6	87.4	14.8	75.9	9.5
Sec. 32:				
Beans, dry	19.3	1.8	16.0	1.3
Butter	18.1	11.7	30.9	18.6
Cheese	10.3	4.5	19.1	8.5
Cottonseed oil and shortening	19.4	4.0	.1	(1)
Eggs			16.0	5.0
Hamburger			24.8	9.0
Lard	8.1	1.3	2.0	.4
Milk, nonfat dry	6.8	1.2	9.0	1.7
Pork products	64.9	38.8	45.6	28.0
Potatoes, sweet	11.1	.6		
Prunes, fresh	6.2	.5		
Rice	7.2	.9	11.5	1.6
Turkeys			24.0	9.7
Other	.2	(1)	3.5	.2
Total sec. 32	171.6	65.3	202.5	84.0
Sec. 416:				
Beans, dry	5.4	.5		
Butter	33.0	21.3		
Cheese	18.7	8.3		
Corn	3.7	.2	1.3	.1
Cornmeal			7.0	.4
Milk, nonfat dry	15.3	2.8		
Rice	10.2	1.2		
Wheat	6.7	.3	1.1	.1
Wheat flour			15.0	.9
Other				
Total sec. 416	93.0	34.6	24.4	1.5
Grand total	352.0	114.7	302.8	95.0

[1] Less than $50,000.

Mr. LENNARTSON. We are open for questions with respect to this appropriation, if there are any.

FEDERAL CONTRIBUTION TO LUNCHES IN PUBLIC AND PAROCHIAL SCHOOLS

Mr. WHITTEN. I would like to ask one or two things. You are talking about the amount of Federal contribution. I have had several complaints that, at least in some of the States, the contribution to the school lunch in various parochial schools is higher than the contribution to the public schools. I state that only as something that has been stated to me. I personally have no knowledge of it.

Does that condition exist, and, if so, what is the basis for it?

Mr. LENNARTSON. We have Mr. Garber here. He may be able to shed some light on that.

You are aware, of course, that the contributions to the—that is, the grants to the individual States is done on the basis of a formula written directly into the act. Now, in some States by legislation the State agency is precluded from handling the private school aspect, such as parochial schools and nonprofit private schools; they are handled directly by the Department of Agriculture through our regional offices.

Offhand, I don't have any data with respect to the level of contribution to private schools.

Mr. Garber, do you have that information convenient as to the reimbursements to private schools versus the public schools as to what variation there might be, or should we furnish it for the record?

Mr. GARBER. We can get that. I don't have it right here now.

Mr. LENNARTSON. I would suspect that generally the rate of reimbursement to private schools would not exceed that which is made to the State, Mr. Chairman.

Mr. WHITTEN. These were school authorities, and I am not passing judgment on it. But as you are aware, in numerous States there is controversy on occasion as to whether Federal funds through the school lunch program shall be made available to private and parochial schools. In some States, by State law it is handled separately.

I trust that you will make a review of this situation.

Mr. LENNARTSON. Would you desire to have us put our findings in the record?

Mr. WHITTEN. Yes.

(The material referred to is as follows:)

DEPARTMENT ADMINISTRATION OF SCHOOL LUNCH PROGRAM IN PRIVATE SCHOOLS

There are 28 States in which the Department administers the national school lunch program in private schools. In such instances the school lunch funds apportioned to each State are divided on the basis of comparative public and private school enrollment. As a result, the funds available per child participating is dependent upon the comparative growth of the program as between public and private schools within the individual State. In some cases therefore the amount of assistance per child in the program is greater in private schools than in public schools. In other cases the reverse situation exists. In the same manner the amount of assistance per child participating varies as between the States in ratio to the extent to which the program has developed in each State. The Department is further exploring this matter, but the principal pertinent provisions of the law which underlie this situation are sections 4 and 10 of the National School Lunch Act which provide (1) that the apportionment of funds to the States shall be on a formula which considers all children between the ages of 5–17 within each State and (2) that for States which are prohibited from disbursing funds to nonprofit private schools, "* * * the Secretary shall withhold from the funds apportioned to any such State under sections 4 and 5 of this act the same proportion of the

funds as the number of children between the ages of 5 and 17, inclusive, attending nonprofit private schools within the State is of the total number of persons of those ages within the State attending school. The Secretary shall disburse the funds so withheld directly to the nonprofit private schools within said State * * *"

Mr. WHITTEN. We on this committee in times past have been disturbed at the nonaction of the Department in the use of section 32 funds.

USE OF SECTION 32 PURCHASES IN RELATION TO SCHOOL LUNCH

Now, it is our belief on this committee that if action is taken early, before the market breaks—frequently, the market does not break and the farmers come out a whole lot better off, and so does the Government. There have been numerous instances in which this committee has taken strong exception to the Secretary's failure to act.

Now, in that connection, after the Department had moved much too slowly in helping in the surpluses, we have done the next best thing of urging the Department to use section 32 funds to buy up these surpluses and divert them to school lunch and other desirable uses. As a result of this slow action in use of section 32 funds, when the Department moved in it had to buy huge quantities in an effort to bring the market back.

In my area, for instance, I was in several towns where the number of turkeys sent in was such that they had to search all over town to find enough refrigeration to keep them. If those turkeys had been bought over a period of time, and in smaller quantities, I am convinced the market would have been better. It certainly would have been better on the school lunch.

This is a matter that is beyond you. But I would like to have, if we could, in the record some indication not only of the amount of foods that you have had from section 32, but the dates on which these were made available. My purpose is to seek some means whereby this committee might seek the cooperation of the Department in doing this on a more even basis throughout the 9 months' school term.

(The material requested is as follows:)

Under the direct distribution program, surplus foods purchased under section 32 are shipped in carload lots to central points within the States. In most cases these foods are stored on a central basis—either in State owned or leased warehouses or at the county or city level—and issued to schools over a period of time related to the rate of use in individual schools. For example, frozen hamburger was purchased weekly from September 27, 1956, through November 29, 1956. Actual shipments began in October and will not be concluded until the end of March. Based on the total quantity of 72 million pounds available, it is estimated that schools will be supplied with hamburger through the end of the school year. In the case of the purchase of frozen turkey, weekly purchases were made between September 27 and November 23 with actual shipments extending through the end of December. The total quantity involved—25 million pounds—represented about 2 months' supply for the school-lunch program.

The following tables show the quantities purchased, and delivery period for section 32 purchases of frozen hamburger, frozen turkeys, and shell eggs.

Direct distribution of shell eggs, turkeys, and frozen hamburger, fiscal year 1957

Delivery schedule	Shell eggs, cases [1]	Turkeys, thousands of pounds [2]	Frozen hamburger, thousands of pounds [3]
Week of—			
October 8	19,650		
Oct. 15	57,816	360	
Oct. 22	44,470	1,737	1,597
Oct. 29	42,836	3,724	4,112
Nov. 5	60,982	4,519	5,925
Nov. 12	63,390	6,148	8,923
Nov. 19	98,291	4,818	9,166
Nov. 26	46,818	3,066	10,331
Dec. 3	45,367	844	7,021
Dec. 10	27,450	150	5,676
Dec. 17	77,064		8,022
Dec. 24			4,452
Dec. 31			3,528
Jan. 7			2,167
Jan. 14			1,113
Total	584,134	25,366	72,033

[1] Purchased for delivery the 2d week after contract award.
[2] Purchased for delivery the 3d week after contract award.
[3] Purchased for delivery the 4th week after contract awarded.

Mr. ANDERSEN. Mr. Chairman, you have touched on a subject on which I have several kindred questions, and I would like to go into it at this point, if you agree.

Mr. WHITTEN. Could I follow up one thing before you do that?

Mr. ANDERSEN. Go ahead.

QUANTITIES OF SURPLUS COMMODITIES DONATED TO SCHOOLS

Mr. WHITTEN. I note last year you estimated 103.4 million dollars from section 32 would be used for donations to the school lunch program.

What has been the actual experience up to this point, and what is the outlook for the remainder of the year?

Mr. LENNARTSON. This is for this year?

Mr. WHITTEN. Yes.

Mr. LENNARTSON. For this year, up through December 31st, this year, we had distributed a total of $84.0 million from section 32 and $1.5 under section 416.

Mr. WELLS. No, just a minute.

Mr. LENNARTSON. Excuse me just a minute, now. Let us get the dates straight here.

Mr. WHITTEN. I was referring to the justification submitted to the committee last year, which actually would be for the current fiscal year.

Mr. LENNARTSON. The current fiscal year, up to December 31, we had distributed $85,500,000 worth and now have in the "pipeline" about $40,000,000 worth for the equivalent of $125,500,000 worth of food to the schools under both section 32 and 416 for this year. This does not include such items as shell eggs and butter which might become available as a result of surplus removal or other programs after February 1. Now, the great bulk of that is section 32. We would estimate that we would run over $100 million of section 32 foods during this current fiscal year.

Mr. WHITTEN. Mr. Andersen, do you have a question?

RESUMPTION OF SECTION 32 EGG PURCHASES

Mr. ANDERSEN. Yes, Mr. Chairman. Mr. Lennartson, I was pleased with the recent action of the Department in resuming egg purchases in an effort to offset depressed market conditions. When top eggs get down to 24 cents in my area action by the Department is required, and, as I said, I commend the Secretary and you folks for prompt action taken following my letter asking that you go back into the market.

If you will recall, you stopped buying about the 10th of December, I believe.

Now, following the announcement that you were going to buy eggs, the market in my district rose 3 cents a dozen, even before you had bought a single egg. There is a good example of the effects you can have on a depressed market, if you do your buying at the correct time.

But you only bought last week a total of 14,000 cases, as I understand it, and then the market dropped back about 2 cents out of the 3 or 4 which it had gained, probably because you had not—and I express this as my opinion—bought forty or fifty thousand cases the trade had expected you to buy.

Can you tell us why you only saw fit to buy 14,000 cases last week when you have need in the school-lunch program for as many as 50,000 cases?

Mr. LENNARTSON. I will be very happy to, Mr. Andersen. We were offered last week—the week we bought 14,000 cases—we were offered the equivalent of 250,000 cases at prices ranging from 35 cents to 51 cents a dozen. I should point out here that in the inauguration of any purchase program the first week is a week we call a "feeler week," in that the trade is testing us out as to what we are willing to pay. So we are always extremely cautious on the first week.

Secondly, I must say to you that the prices above those we paid would have been out of line with what producers were obtaining for their eggs out in your country, or the Midwest, generally. In other words, had we gone any higher than that we would, in our judgment, have reflected too much margin to the distributor.

PRICES PAID UNDER EGG PURCHASE PROGRAM

Mr. ANDERSEN. Do you mean to tell me, Mr. Lennartson, that the trade asked of you up to 51 cents a dozen for eggs?

Mr. LENNARTSON. That is correct, and they were currently selling in the Midwest at 25 cents level, we had offers on eggs as high as 51 cents a dozen. Last week we bought the eggs at as high as 36.9 cents a dozen.

Mr. ANDERSEN. I will say this, that with farmers in my area selling their top eggs for about 25 cents I certainly wouldn't think that you would buy 51-cent eggs from the trade, and I am glad that you didn't. At the same time, I wouldn't expect you to hold the price so low that the price to farmers would not have a chance to rise. What is your thinking on that?

Mr. LENNARTSON. May I follow up in further answer?

Mr. ANDERSEN. Yes, go ahead.

Mr. LENNARTSON. This week, today, for instance, we have purchased 48,000 cases of eggs, all except for 3 cars, coming directly from

the Midwest, and we only had to pay as high as 34.9 cents a dozen, which reflected the 2-cent drop that occurred to the producer between last week's purchases and these. In other words, we are following the market.

Now, in answer to your last question we have limited outlets. We have outlets for roughly forty to fifty thousand cases a week. These are shell eggs. We determine that we are going to buy them as the schools can use them and not stockpile them, because we are getting around to the point now where we will have to look forward to schools being closed here in a few months hence.

Now, with limited outlets dictating to us that our purchases must be limited to those quantities, I must say in all fairness to you that should this market continue to go down because of the supply situation, we will have to go down with it, it is automatic. That results from our limited outlet for this type of egg.

USE OF SECTION 32 FOR PRICE SUPPORT

Mr. WHITTEN. Mr. Andersen, I think I am correct about this: While the school lunch is one of the chief uses of surplus that you buy under section 32 funds, section 32 is also available to support prices through purchases. Haven't you got a double purpose by which you have to govern your actions?

Mr. LENNARTSON. That is true, Mr. Chairman. But we have rigidly followed the policy with section 32 funds, that we do not use them essentially for price-support purposes as is done in the basic commodities, because that would require buying far and beyond our means, far and beyond our outlets. We are dealing here primarily with section 32 funds on perishable commodities. Let's say we want to support the price of eggs, say, at 25 cents, as we are attempting to stabilize the market now, let's assume we got offers far and beyond our known outlets. It means that these eggs would have to go into storage. Storing shell eggs for lengthy periods of time is a dangerous undertaking.

Mr. ANDERSEN. If you will permit me, for a connected record this brings me up to the point, Mr. Lennartson, of your thinking relative to this storage. First let me say I am very happy to hear that you did go into the market further today in view of the prices you were asked. You say to the extent of 48,000 cases.

Mr. LENNARTSON. 48,000 cases.

Mr. ANDERSEN. One of the biggest difficulties in eggs is the storage problem; is it not?

Mr. LENNARTSON. That is right.

Mr. ANDERSEN. If it wasn't for that, you and the Armed Forces could probably do well by buying very large quantities during seasons of low prices, could you not, if it were not for the storage?

Mr. LENNARTSON. That is correct.

Mr. ANDERSEN. In other words, it would help you to stabilize the market?

Mr. LENNARTSON. Yes.

Mr. ANDERSEN. But you are faced with a problem——

Mr. LENNARTSON. This is a very perishable commodity.

ARMED FORCES PURCHASES OF EGG SOLIDS

Mr. ANDERSEN. That is right. Now, that gets me into the subject that this all has been a preface to: What about egg solids; are the Armed Forces buying any egg solids today?

Mr. LENNARTSON. Yes; they are buying egg solids; they never discontinued buying egg solids from back in the war days. I should say, however, that when we are talking about egg solids we are talking about a different product than we purchased back in the days when we were essentially supporting the price of eggs through the purchase of the old type of dried egg.

IMPROVEMENT OF EGG SOLIDS

Mr. ANDERSEN. That brings me up to a point I want to try to get across here before the committee. Could you tell us a little bit about the quality today of egg solids as compared with that which got more or less a bad name during the last war? Has it been improved much in quality since then?

Mr. LENNARTSON. Well, it is an entirely different product. There is hardly any base in comparing the two.

Mr. ANDERSEN. There is really no comparison?

Mr. LENNARTSON. First, we must realize that dried eggs as they were used in World War II and subsequently was a new product, there was a lot of experimentation required on it, and we all recognized that it got a bad name because of the quality of the product that was turned out.

In the postwar years, however, the Agricultural Research Service, along with the Army, and the egg-solids industry, the private trade, have done a remarkable job through research and development in developing a new product now which they call egg solids. It is far superior to anything that we had during World War II. They have a product now which is being widely accepted in increasing quantities by industrial users.

Essentially what is being done in this egg industry touches back on the thing you remarked about yesterday, Mr. Marshall; the rapid development of commercial egg production nearer the points of consumption or the metropolitan areas—this happened in California, in the Northeast; it is going on now in the Southeast—has put an extreme pressure on the shell-egg markets for the Midwest farm flock producer. Essentially what you are having developed here on the part of the research on eggs and the industry is to develop new types of products through which the Midwest egg must seek market outlets in the future.

Mr. ANDERSEN. That is the whole point, Mr. Lennartson. We must, through our area, find some way to consume, temporarily, or to put into satisfactory storage temporarily, part of that huge egg production which bothers us for these 3 or 4 months.

Mr. LENNARTSON. That is correct.

Mr. ANDERSEN. I would like to ask Mr. Wells at this point: Mr. Wells, do you join with Mr. Lennartson in his statement relative to the improvement in method of arriving at the so-called egg solids compared with the previous dry-egg product or powdered egg?

Mr. WELLS. Mr. Andersen, it is my understanding that this new product which is now being produced by a limited number of plants is a

very excellent product. As a matter of fact, 2 years ago now, Mr. Lennartson, I believe it was, we considered using and actually asked for bids under section 6 of the school-lunch program for some of these eggs but with a rise in the egg market and the plants tied up largely in Army purchases, we were not able to get it. But we seriously considered using section 6 funds in order to allow the school-lunch people to experiment with this new product.

Mr. LENNARTSON. May I supplement that?

Mr. ANDERSEN. Go ahead.

Mr. LENNARTSON. One of our problems on this particular area is that section 6 funds are not available to us until after the first of the fiscal year. After the first of any fiscal year is the period when egg markets are starting to go up because we are running into months of short supply. Unfortunately for our objective, this couldn't be timed properly. If we are going to consider the use of this new type of egg solid, so-called fortified egg, in the school-lunch program or institutions, we are going to have to direct our attention to purchasing during the flush months of production for two reasons: (1) At that time you get a very fine quality egg; (2) any market-stabili ation effort is usually needed at that time rather than about July 1 when we could get in the egg market with section 6 funds.

Mr. ANDERSEN. Did you say whether or not the Armed Forces are buying any egg solids today?

Mr. LENNARTSON. Yes, they buy every spring. They go into the market every spring and buy their annual requirements during the spring.

Mr. ANDERSEN. Are they well satisfied with the quality of the product they have been able to obtain?

Mr. LENNARTSON. I assume so. They were largely responsible in developing the new product, and they are used quite generally, particularly in overseas bases.

Mr. ANDERSEN. This product can be handled without refrigeration?

Mr. LENNARTSON. It has a long shelf life from the standpoint of storage—

DEMAND FOR EGG SOLIDS FROM SCHOOL-LUNCH PROGRAMS

Mr. ANDERSEN. Do you have any demand from State school-lunch officials, Mr. Garber?

Mr. GARBER. Yes.

Mr. ANDERSEN. Where does it come from, Mr. Garber?

Mr. GARBER. It comes from the State distributors, who in turn are in close touch with the school authorities in the various school lunchrooms, and they have put some requests through to us for egg solids.

Mr. LENNARTSON. I think some States, Mr. Garber, actually have purchased some.

Mr. GARBER. Yes; they are actually purchasing some and actually use it in the school lunch rooms.

Mr. ANDERSEN. Mr. Chairman, I am pointing this out, or bringing this subject up because it is already serious as Mr. Marshall knows to the State of Minnesota, and it might apply to all the Midwest States, which do not have an immediate market for all these good shell eggs that they produce. Now, I think it is a little-known fact, as these gentlemen have brought up, that these egg solids are an entirely

different product from what we used to store down in the cave in Missouri, was it, Mr. Lennartson?

Mr. LENNARTSON. Kansas.

Mr. ANDERSEN. Kansas, yes. Something entirely different, it is a top-quality product, and I believe, perhaps, gentlemen, it is the answer to this comparatively small surplus of shell-egg production during the high producing time in February and March, converting it into a first-class product and then being able to ship it wherever we might want to ship it, and furnish to our Armed Forces, or the school lunch program, any place around the world for consumption. I believe, Mr. Chairman, it answers one of the big problems facing us in temporary overproduction of a surplus product. That is why I am elaborating on it today.

PURCHASING EGG SOLIDS TO STABILIZE EGG MARKETS

It just seems to me that if these egg solids today are a high-quality product, and there is this demand for them, that it would be just good business on the part of the Department, Mr. Wells, and Mr. Lennartson, to go into the market and buy sizable quantities when the market is low like it is now. It would serve a good many purposes. These could be stored at low cost until, as I have stated, the schools open up in the fall and used at a time when the shell-egg market is in good shape. It looks like you would accomplish two things by so doing. First, you could help stabilize the market when it hits these seasonal lows; and, second, you could furnish the school lunch program a quality egg product much in demand at the lowest possible cost to the Government. Now, is my line of reasoning correct, Mr. Lennartson? Am I far off in this statement?

Mr. LENNARTSON. I can't disagree with it.

Mr. ANDERSEN. You will agree with me that this could be done?

Mr. LENNARTSON. It could be done.

Mr. ANDERSEN. Now, that comes to the $64,000 question: Wouldn't it be good business right now to go into the market and buy say 3 or 4 million dollars worth of egg solids from section 32 funds and store them away for use later on when the shell egg market is up?

Mr. LENNARTSON. That is a decision that neither Mr. Wells nor I make, but it would be practical.

Mr. ANDERSEN. What do you think, Mr. Wells, don't you think it would be practical?

Mr. WELLS. In line with the earlier discussion of trying to schedule shipments into the schools, it would be practical, Mr. Lennartson, provided the plant capacity is there. It is my understanding that this is a new product, that there are not many plants in the United States equipped to turn it out. At the same time if the Secretary's Office should give favorable consideration to this, I would want to introduce this new product in such a way that the schools got a fair try without putting so much in that they felt it was being forced on them.

Mr. ANDERSEN. Thank you, gentlemen. I hope you do take some action on this. This concludes my questioning relative to this.

PURPOSES OF SECTION 32 PURCHASE PROGRAMS

Mr. WHITTEN. We have gotten into a subject which is of vital interest to all members of this committee. I would like to point out one thing here that is pertinent to the line of questioning.

I raised the question earlier as to whether the Department wasn't shifting over and making section 32 a part of the school lunch. There is a considerable degree of difference. On the one hand section 32 funds should be used in an effort to stabilize the market, knowing full well that what you purchase would be used for a good purpose with school lunch. It is something else to let the market break so you can buy the most for school lunch.

I am thinking that along the line the Department is forgetting the prime purpose of section 32, which is a price-support program, and the benefits that come from the use of what you buy is an additional benefit. And I mention it here because that is quite definitely my understanding of the law, and your testimony would indicate there is some substance to the fact that we have begun to think of it as just a part of the school-lunch program. I am proud that it does help the school-lunch program. But it should be so handled as to help stabilize farm prices, which is the primary purpose of that section.

Mr. ANDERSEN. Might I say there I agree entirely with you.

Mr. WHITTEN. Thank you, I appreciate it.

I follow that further by saying that if the funds are used early enough to be of some benefit in price supports, it will tend to give the supply to the school programs on a more staggered basis, so as not to unload a lot of one commodity far beyond what they can use. A turkey is a wonderful product, but if the schoolchildren have nothing but turkey for about a month and a half, it is not nearly so good as if they had some turkey 1 week a month.

I think everybody will come out better if we give a little more emphasis to the reasoning behind section 32. Presumably, if the school lunch needs more money, the Congress will appropriate more money. We don't need to divert section 32 funds from the purpose of the act just to add more funds.

Mr. LENNARTSON. The point I was trying to make, aside from school lunch, the policy of only buying to the extent you could get rid of the commodity is basic in a program for buying perishable commodities—and, when we are dealing in section 32, as indicated by the law, we are talking principally about perishable commodities—to buy far in excess, or any in excess of your ability to dispose of it, whether it be to school lunch, charitable institutions, or needy people, would be a tragic mistake in our opinion, because you would be faced with spoilage.

Now, that is what I was emphasizing: in the management of the section 32 programs we pay a lot of attention to our ability to dispose of the commodity.

Mr. VURSELL. Mr. Chairman, may I ask a question?

I am rather glad that I brought this egg-price problem up. It has been perplexing our people out in southern Illinois because it has led to quite a general discussion, and I feel very much encouraged with this new product that is being developed, or has already been developed, because I think that it probably will go a long way toward answering the problem that will be of great benefit to the people of

my area in southern Illinois, in particular, because we are very heavy out there in the poultry and egg production.

I am also glad to note that you are back in the egg market buying what you should buy. I think your policy is sound and I am very happy to know that some relief is coming at this time. I am sure it will be greatly appreciated by people all over the Nation.

That is all, Mr. Chairman.

Mr. WHITTEN. All of us on this committee are vitally interested in this subject matter. We hope that it will be under constant review to handle it so as to help the farmer and make beneficial use of what we do buy.

SOURCE OF FUNDS, MATCHING REQUIREMENTS AND PARTICIPATION IN PROGRAM

I would like for you to put in the record for the last 4 or 5 years the total number of schools participating, the total number of children, the average Federal contribution in cash, as well as the supplies of commodities that have been made available through the various sources. It might be well also at this point to include pertinent statistics for the 10 years since the enactment of the National School Lunch Act.

(The information requested follows:)

School lunch program—Source of funds, matching requirements, and participation in the program, fiscal years 1947–57

Item	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957 [1]
1. Method of financing program:											
Federal contribution:											
(a) Direct appropriation, School Lunch Act:											
Cash payments, food (apportionment)	$62,338,155	$54,000,000	$58,875,000	$64,565,000	$68,275,000	$66,320,000	$67,185,000	$67,266,000	$69,142,000	$67,145,648	$83,600,000
Sec. 6 (distribution) [2]	5,735,269	13,438,329	14,474,763	16,684,026	15,089,210	15,590,016	14,744,071	14,826,278	12,830,253	14,802,020	15,000,000
Total	68,073,424	67,438,329	73,349,763	81,249,026	83,364,210	81,910,016	81,929,071	82,092,278	81,972,253	81,947,668	98,600,000
(b) Donated commodities:											
Sec. 32	2,312,479	19,340,561	21,550,031	36,193,259	15,194,903	12,993,184	51,724,476	94,217,791	26,936,287	65,345,401	119,124,800
CCC (416)				1,990,606	19,641,552	3,589,559			43,369,550	34,600,803	3,486,400
Public Law 471				321,069							
Total	2,312,479	19,340,561	21,550,031	38,504,934	34,836,455	16,582,743	51,724,476	94,217,791	70,305,837	99,946,204	122,611,200
(c) Special milk program									17,241,055	46,275,072	[3] 60,000,000
Total, Federal contribution	70,385,903	86,778,890	94,899,794	119,753,960	118,200,665	98,492,759	133,653,547	176,310,069	169,519,145	228,168,944	281,211,200
State contribution:											
(a) Direct appropriation:											
State and local	20,616,000	29,052,000	35,418,000	39,000,000	46,477,000	54,418,000	57,162,000	62,962,000	68,991,000	65,427,000	70,000,000
(b) Other local contributions	17,532,000	22,674,000	23,887,000	31,553,000	32,627,000	38,457,000	46,350,000	51,782,000	53,908,000	72,335,000	77,000,000
(c) Payments by children	112,540,000	138,282,000	158,553,000	177,336,000	207,213,000	242,370,000	275,926,000	303,276,000	336,362,000	377,212,000	415,000,000
Total, State contributions	150,688,000	190,008,000	217,858,000	247,889,000	286,317,000	335,245,000	379,468,000	418,020,000	459,261,000	[4] 514,974,000	562,000,000
Total contributions	221,073,903	276,786,890	312,757,794	367,642,960	404,517,665	433,737,759	513,121,547	594,330,069	628,780,145	743,142,944	843,211,200
2. Matching: [5]											
Federal apportionment	62,338,155	54,000,000	58,875,000	64,565,000	68,275,000	66,320,000	67,185,000	67,266,000	69,142,000	67,145,648	83,600,000
Required by States	55,877,690	43,740,894	47,965,738	52,879,949	85,210,189	82,155,960	83,214,954	83,707,625	86,841,000	167,015,000	([6])
Contributed by States	150,688,000	190,008,000	217,858,000	247,889,000	286,317,000	335,245,000	379,468,000	418,020,000	459,261,000	514,974,000	562,000,000
Contributed in excess of requirements	94,810,310	146,267,106	169,892,262	195,009,051	201,106,811	253,089,040	296,253,046	334,312,375	372,420,000	347,959,000	([6])
Excess as percent of requirement	170	334	354	369	236	308	356	399	429	208	([6])

See footnotes at end of table, p. 1003.

School lunch program—Source of funds, matching requirements, and participation in the program, fiscal years 1947–57—Continued

Item	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957 [1]
3. Participation in program:											
(*a*) Number of schools (average from September to June)	36,190	38,958	42,994	47,014	49,124	49,671	51,807	51,731	53,557	51,369	52,000
(*b*) Number of children (average from September to June)	5,018,508	5,257,918	6,076,969	6,959,612	7,595,126	8,060,555	8,608,465	8,985,468	9,769,167	9,337,494	10,000,000
(*c*) Number of meals served	910,926,717	972,008,521	1,119,094,198	1,275,923,146	1,393,145,667	1,489,890,214	1,583,638,073	1,661,403,101	1,806,586,577	1,725,000,000	1,900,000,000
Type A (percent of total):											
With milk	57.9	54.9	59.7	64.1	67.2	69.1	71.0	76.3	79.6	91.2	97.8
Without milk	14.2	13.3	12.1	9.1	7.5	6.1	5.1	4.0	2.1	1.7	2.0
Type B (percent of total):											
With milk	2.0	4.7	1.7	1.0	.8	.7	.8	.6	.2	.2	.2
Without milk	.8	.6	.4	.3	.2	.2	.1	.1	.1	(7)	(7)
Type C (percent of total)	25.1	26.5	26.1	25.5	24.3	23.9	23.0	19.0	18.0	6.9	(7)
(*d*) Total average payment per meal—cents	24.3	28.5	27.9	28.8	29.0	29.1	32.4	35.8	33.8	40.4	41.2
(1) Total Federal contributions from school lunch fund only: cents	7.7	9.0	8.5	9.4	8.5	6.6	8.4	10.6	8.4	10.5	11.7
(2) State and local contributions cents	4.2	5.3	5.2	5.5	5.7	6.2	6.5	6.9	6.8	8.0	7.7
(3) Payments by children cents	12.4	14.2	14.2	13.9	14.8	16.3	17.5	18.3	18.6	21.9	21.8
(4) Federal cash payment [8] cents	6.8	5.6	5.3	5.1	4.9	4.5	4.3	4.0	3.8	3.9	4.4
(*e*) State contributions including payments by children, per Federal dollar (cash payments)	$2.42	$3.52	$3.70	$3.84	$4.19	$5.05	$5.65	$6.21	$6.64	$7.67	$6.72
(*f*) State contributions, excluding payments by children, per Federal dollar (cash payments)	.61	.96	1.01	1.09	1.16	1.40	1.54	1.71	1.78	2.05	1.76

(g) Annual contribution per child from:											
(1) Federal cash payments	12.42	10.27	9.69	9.28	8.99	8.23	7.80	7.49	7.08	7.18	8.36
(2) State and local contributions	7.60	9.84	9.76	10.14	10.42	11.52	12.03	12.77	12.58	14.75	14.70
(3) Payments by children	22.42	26.30	26.09	25.48	27.28	30.07	32.05	33.75	34.43	40.40	41.50
4. Status of Federal appropriations to carry out the National School Lunch Act (obligations, excluding reimbursements):											
Cash payments, food	59,853,146	53,948,241	58,752,066	64,520,543	68,156,229	66,293,554	67,071,472	67,176,526	68,936,259	66,871,676	83,600,000
Cash payments, nonfood	9,695,515										
Commodity procurement (sec. 6)	5,841,710	14,231,307	14,433,322	17,390,520	13,581,726	15,542,218	14,723,832	14,843,984	12,833,960	14,825,730	15,000,000
Administrative expenses	2,047,562	1,322,838	1,578,801	1,486,935	1,480,142	1,332,116	1,289,963	[9] 1,197,282	1,133,089	1,089,947	1,400,000
Total obligations	77,437,933	69,502,386	74,764,189	83,397,998	83,218,097	83,167,888	83,085,267	83,217,792	82,903,308	82,787,352	100,000,000
Unused balance	3,562,067	497,614	235,811	102,002	281,903	199,603	282,224	147,208	332,889	448,835	
Total appropriation	81,000,000	70,000,000	75,000,000	83,500,000	83,500,000	83,367,491	83,367,491	83,365,000	83,236,197	83,236,197	100,000,000

[1] Preliminary.

[2] 1947–51 represents year in which commodities were distributed. Not necessarily year in which funds were expended. Beginning with 1952 distributions were made in year in which funds were expended. Discrepancies between expenditures and distributions in these years result from loss in transit, failure to meet specifications, and other program adjustments.

[3] Represents estimated requirements based upon expenditures during fiscal year 1956.

[4] Final, based on State reports.

[5] Matching requirements are as follows: 1947–50, $1 to $1; 1951–55, $1.50 to $1; thereafter $3 to $1 except that for States with per capita income below the national average the ratio required is decreased by the percentage which the State per capita income is below the per capita income of the United States. Lowest matching requirement for 1947–50 was $0.46 to $1; for 1951–55, $0.73 to $1.

[6] Not available.

[7] Less than 0.05 percent.

[8] Maximum reimbursements are: Type A, 9 cents; type B, 6 cents; type C, 2 cents.

[9] Includes $128,803 transferred to Commodity Stabilization Service for penalty mail costs.

SPECIAL MILK PROGRAM

Mr. WHITTEN. Now, what is the status of the special school milk fund?

Mr. LENNARTSON. The special milk program has been exceptionally successful. We are probably increasing the consumption of milk under that program by about 30 percent over last year.

As you know, the authorization was extended—under Public Law 465, of last year—for 2 years at a higher level. It was originally $50 million, and during this present fiscal year and for the next fiscal year the authorization has been increased to $75 million a year. Also the amended law broadened the program beyond schools to include child-care centers, settlement houses, summer camps, and similar nonprofit institutions.

Mr. WHITTEN. That money comes from directly appropriated funds, does it not?

Mr. LENNARTSON. No; that is an authorization to expend Commodity Credit Corporation funds for which I imagine they would be reimbursed.

Mr. WHITTEN. You are correct. How does it appear in this year's budget?

Mr. LENNARTSON. It is still an authorization.

Mr. WHITTEN. And we will replace the money by restoration of the capital impairment to the Corporation?

Mr. LENNARTSON. Yes. The program has been extended now to over 70,000 schools, which is about 13,000 more schools than are participating in the school lunch program.

I would expect that as a result of the 2 programs we estimate that about 18 million children are drinking milk in schools as a daily average.

Mr. WHITTEN. It is hard to judge the size or the value of a particular lunch in a school. I believe about the best yardstick would be to indicate the average school lunch in calories and the average amount of milk supplied.

Do you have any figures to show this?

Mr. LENNARTSON. I suspect we could obtain some. You understand, of course, that in the full school lunch they must serve a half pint of milk. Through the special milk program, we are giving them reimbursements for milk consumed over and beyond that half pint with the school lunch to the extent of 4 cents per half pint.

Now, there are many schools which do not have school facilities to serve hot lunches or complete lunches, and that is where the special milk program has been of particular significance, where they are permitted because of the lack of facilities to serve milk only.

And there we are permitting a reimbursement of 3 cents per half-pint. That is the reason that the number of schools participating in the special milk program is substantially above that participating in the regular school lunch program.

(The information requested follows:)

The type A school lunch is a complete lunch designed to provide from one-third to one-half of a child's daily dietary needs. The quantities of foods called for are based on the dietary needs of the 10- to 12-year-old as recommended by the National Research Council. For this age group the type A lunch provides about 800 calories. Included is one-half pint of milk which contributes 166 calories.

In addition, schools are encouraged to adjust portions and serve extra foods when needed to meet the additional energy needs of older children.

Mr. WHITTEN. Any questions?

SPECIAL MILK PROGRAM OPERATES THROUGH CASH PAYMENTS TO SCHOOLS

Mr. MARSHALL. You mentioned that the school milk program has been highly successful.

In the mechanics of handling the special milk program the local authorities pay for that by voucher?

Mr. LENNARTSON. Yes.

Mr. MARSHALL. You do not transmit milk in bulk from one source to another?

Mr. LENNARTSON. No. They handle the whole program at the local level and submit vouchers for whatever they are entitled to.

Mr. MARSHALL. Is that a satisfactory way in your estimation of handling that kind of a program?

Mr. LENNARTSON. It has been quite satisfactory insofar as we are concerned. It follows essentially the same policy as we have followed in cash assistance for food in the school-lunch program. The administration and operation of it is placed in the hands of the State people, subject to the rules of the Department and also subject to our auditing and administrative review. Yes, it is satisfactory in this type program.

Mr. MARSHALL. Might it not be administratively feasible to handle other perishable commodities under section 32 funds in a like manner?

Mr. LENNARTSON. What you are indicating there is putting the money out into the States, rather than the Department entering the market to buy the commodities. That is turn the money over to the States to buy the commodity.

SUPPLIES OF SURPLUS COMMODITIES FOR INDIVIDUAL SCHOOLS

Mr. MARSHALL. We know that the school-lunch program is a very popular program and has been doing a great deal to improve the diet of our children. I know that in many instances giving our children a warm lunch at midday means much to their health and also their ability to take better advantage of their school facilities.

Mr. Lennartson, I had this letter that came to me from a clerk of the school district, which I would like to read into the record at this point, and I would like to have you comment on it:

DEAR MR. MARSHALL: I have not heard what the Federal Government is doing about increasing the amount of surplus food for the school-lunch program.

Since I talked with you in the Brainerd post office, December 14, 1956, we received 3 turkeys, 60 pounds, or 2 pounds per child for the year; 1 case of cheese, 2 cases of butter, 120 pounds of hamburger or 4 pounds per child per year, which is much better than we received last year.

Last year, we received only one-half pound of hamburger per child for the year, 3 cans of peanut butter, or 11 ounces per child per year, 3 cans of blue plums, or 11 ounces per child for the year, 3 cans of canned corn, or 11 ounces per child for the year, 3 cans of tomatoes, or 11 ounces per child for the year.

Don't you think the Federal Government should be able to do better than they have?

After all, we do read in the papers where the Federal Government has so much surplus food. If more food is not received, I believe many schools may have to drop the school-lunch program.

You can use this letter any way you think it will help the school-lunch program. Please do everything you can. Many children need the school-lunch program.

I believe it is one of the best programs the United States Government has undertaken.

Yours truly,

FELIX BAAKKONEN,
Route 6, Brainerd,
Clerk of the East Gull Lake School District, Cass County.

Down here in a footnote:

There are 30 pupils in our school.

Mr. LENNARTSON. The answers to his comments, Mr. Marshall, are that we have distributed on a nationwide basis all the products that we had available. That didn't necessarily mean that those quantities were adequate for a full year's supply or a month's supply or any particular period of time.

What we have done is distributed the quantities we have available for distribution on the basis of requests received by the State.

In many instances, it is necessary to ration out the supply available. For example, the supplies available under section 6 are by no means available for a full year for any particular school.

Similarly, the amount of hamburger we purchased was not necessarily intended for a full year's supply, but we think it will be quite adequate for the balance of the school year.

During the fall when we purchased eggs, we purchased in excess of current needs. In fact by the 30th of December we had purchased enough eggs to take care of the total school needs through the month of January. Our purchases now will supplement earlier purchases.

The writer should be informed that on each of these programs we do not set out to necessarily purchase the full supply requirements of the school year.

Mr. MARSHLL. Are the amounts that he has distributed comparable with the amounts on a per-pupil basis that have been distributed to other schools?

Mr. LENNARTSON. There are two answers to that question: One, some of the items he mentioned would be the so-called section 6 items, which we purchase and make distributions for probably 1 or 2 full distributions nationally.

Now the second part of the answer is that we do send out suggested levels of consumption to the State agencies. They may vary those as they see fit, subject to our review.

The suggested levels we recommend are reasonable. There may be circumstances where they would desire to use additional quantities. They may vary within reason from those suggested levels.

But I would say that the levels that he is talking about, in view of the limited supply available, would probably be the levels that obtain all through the State of Minnesota, for instance.

Mr. MARSHALL. Some of the commodities which you mentioned may be received in section 32?

Mr. LENNARTSON. That is correct. Ham, he mentioned, would be section 32; butter, he mentioned, would be a section 416 item, distributed under section 416 of the Commodity Credit activities.

Mr. MARSHALL. Apparently he would feel, judging from the tone of his letter, that they might have consumed more cheese or more butter in their particular school.

Mr. LENNARTSON. I would suspect on an item like cheese, in view of the supply situation, that he could have all the cheese he wanted, because the supply is adequate.

On the matter of plums and canned corn, those were section 6 items in which limited purchases were made and naturally there wouldn't be a full year's supply available.

SCHOOLS REQUEST COMMODITIES THROUGH STATE AGENCIES

Mr. WELLS. Mr. Marshall, the request for these schools comes from the State office.

Mr. LENNARTSON. From the schools themselves, essentially, to the State.

Mr. WELLS. I think it is fair to state that the State of Minnesota can be furnished adequate quantities of cheese in view of the substantial quantities now held by CCC.

We do advise that school agencies not distribute too large quantities of these surplus surplus commodities to the schools—that they do not distribute in excess of what the schools can use effectively. We do look on surplus foods as being supplementary to the school-lunch program. After all, the overall program now constitutes an $800 million program, $125 million of which is furnished in surplus commodities.

Mr. MARSHALL. Might I ask this: Is it the purpose of the Department, policy of the Department, to furnish all of the commodities that they could use in the school-lunch program, use that outlet for all they could?

Mr. LENNARTSON. To the extent we have the supplies available, we will furnish the States the supplies they request. The requests for specific quantities begin back at the local schools. The requests of the local schools go into the county, then into the State agency, where they are consolidated into carlot orders.

Mr. MARSHALL. For the purposes of this record, any school that feels that they could use more commodities such as cheese or butter ought to take the initiative of making that request.

Mr. LENNARTSON. Very definitely.

Mr. WELLS. To their State administrative agency; not to us.

Mr. MARSHALL. That would be true for any of the commodities which they might get under section 416 or 32.

Mr. LENNARTSON. That is correct.

Mr. MARSHALL. Because your funds in those categories have not been limited.

LIMITATIONS ON SUPPLIES OF SURPLUS COMMODITIES

Mr. LENNARTSON. It is not a question of funds. Supplies have been limited. They might request commodities, but we can't give them the assurance that the total quantities they ask for will be available. For instance, we ran out of beans, we ran out of shortening, we ran out of a number of items that were no longer available under price-support or surplus-removal programs despite the fact that the schools have requested them. There is considerable confusion on that, stemming from the fact that for a long period of time the schools have obtained certain items because of the tremendous stocks that were available in CCC inventories. We have disposed of many of those stocks. So when it comes to cutting off or lowering the quantities that we have been getting, the local people, and rightfully so, are confused, they

think that something is being withheld from them unnecessarily, which isn't true. It is a case of surplus stocks no lorger being available to us in the same quantities. If we have the commodities available and they have the space available to handle them, we will meet all the orders submitted by the States. To the extent there are limited supplies, we must go through a rationing process.

Mr. MARSHALL. During the marketing year we find a number of times when the markets are in a more or less chaotic condition, as far as price is concerned.

Mr. LENNARTSON. Yes.

Mr. MARSHALL. If the Department knew that they had an outlet through the school-lunch program for some of these commodities which the school could use, it might influence their policy somewhat in going into the market to buy those particular commodities with the use of section 32 funds; would that be a correct assumption?

Mr. LENNARTSON. You mean the Department?

Mr. MARSHALL. Yes.

Mr. LENNARTSON. Yes; you are right. The timing or the inauguration of a section 32 program is extremely important. Entering after a market break may be more costly. Entering it at the proper time could preclude buying by merely announcing that the Department was ready to purchase. Timing is an extremely important element. The determination as to whether or not to enter the market is, as indicated, a policy decision.

Mr. MARSHALL. Going back to a different era, it was the policy at one time to be more generous with the use of section 32 funds for the matter of supporting the prices of commodities, and during that period it was accepted more as a policy of the Department to push these commodities out to the schools as outlets; to more or less say to them: "We have got these commodities; here is where they go."

Mr. LENNARTSON. Yes.

Mr. MARSHALL. Now, that policy, as I understand it, has been changed so that now more of the burden of proving that a need for these commodities exists on the local level, and that local people ought to take more initiative to find out what they might get as far as their school-lunch program is concerned; is that a fair assumption?

Mr. LENNARTSON. No; I think the determination of whether or not a section 32 program is inaugurated is made outside of consideration of the schoolchildren.

Mr. MARSHALL. However, recognizing that we are still in a position where many of our markets are chaotic, at least during a part of the year, the Department would certainly give more consideration to the purchase of commodities if they knew they had an outlet for them?

Mr. LENNARTSON. Mr. Marshall, the Department knows it has the outlet through school lunch. It knows at all times that that outlet is available. So again I have to say that the determination as to whether or not a section 32 program is inaugurated is made outside the consideration of the school-lunch program or the charitable institutions. The only time they come into play is with respect to the size of the program, what outlets or how much of this we can distribute without stockpiling. That is when the school lunch and charitable institutions come into play. But the determination of whether we go into a beef or poultry market to purchase surpluses is made completely separate from the school-lunch program.

Mr. MARSHALL. Isn't it correct at the present time, of course, we know the condition of the egg market?

Mr. LENNARTSON. Yes.

Mr. MARSHALL. Does the Department and the States know at the present time how many eggs they have an outlet for?

Mr. LENNARTSON. The Department knows. We know that the schools can consume from 40,000 to 50,000 cases a week from now until the school term stops.

STATES NOTIFIED OF AVAILABILITY OF SURPLUS COMMODITIES

Mr. MARSHALL. As far as you are concerned, a school wouldn't have to be concerned; you will get the eggs out to them?

Mr. LENNARTSON. They have to be concerned in this respect: They—the State agencies—are notified surplus eggs will be available and are asked, "How many do you want?"

Mr. MARSHALL. Would the same be true of cheese and butter?

Mr. LENNARTSON. Yes. They know cheese is available and they are reflecting their requirements on cheese month by month. As soon as we inaugurate a program, telegrams go to each State, from our regional offices, indicating to them as to when the commodity will be available.

Mr. MARSHALL. As you know, we have had a number of inquiries from those—as this letter is somewhat typical of—indicating that they could use more of these commodities.

Mr. LENNARTSON. Yes; we know they can use them. We know they are very well accepted.

Mr. NATCHER. As you know, this committee always gives a lot of time and study to the school-lunch program, and every year since I have been a member of this committee we have increased the proposal made by the Department. I am glad to see this time that the amount proposed for the school-lunch program is more in line with the school-lunch program needs. I want to thank you for making a fine statement to this committee concerning this program.

Mr. LENNARTSON. Thank you, sir.

Mr. MARSHALL. We stand adjourned until 1 o'clock tomorrow.

FRIDAY, FEBRUARY 15, 1957.

REMOVAL OF SURPLUS AGRICULTURAL COMMODITIES (SEC. 32 FUNDS)

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Direct purchase	$206,743,042	$213,128,000	$213,128,000
2. Encouragement of exportation	4,110,989	10,047,000	10,047,000
3. Diversion to byproducts and new uses	3,435,891	12,280,000	12,280,000
4. Surplus removal operating expenses	1,877,280	3,150,000	3,063,000
5. Marketing agreements and orders	1,377,840	1,500,000	1,837,000
6. Foreign market promotion	1,356,812	1,707,300	1,871,000
7. Import controls	202,273	210,500	223,000
Total obligations	219,104,127	242,022,800	242,449,000
Financing:			
Comparative transfers to other accounts	2,049		
Unobligated balance brought forward	−300,000,000	−244,701,053	−198,295,141
Recovery of prior year obligations	−1,359,758		
Unobligated balance carried forward	244,701,053	198,295,141	174,746,141
Appropriation (adjusted)	162,447,471	195,616,888	218,900,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	AGRICULTURAL MARKETING SERVICE			
	Total number of permanent positions	493	536	535
	Full-time equivalent of all other positions	1	5	5
	Average number of all employees	375	517	516
	Number of employees at end of year	412	520	519
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,294	$5,373	$5,373
	Average grade	GS–7.2	GS–7.3	GS–7.5
	Ungraded positions: Average salary	$3,836	$3,703	$3,703
01	Personal services:			
	Permanent positions	$2,263,436	$3,152,000	$3,147,000
	Positions other than permanent	2,068	13,000	13,000
	Regular pay above 52-week base	9,884		10,000
	Payment above basic rates	4,137	10,000	10,000
	Total personal services	2,279,525	3,175,000	3,180,000
02	Travel	216,962	300,000	300,000
03	Transportation of things	4,918	10,000	10,000
04	Communication services	75,050	80,000	80,000
05	Rents and utility services	22,472	35,000	38,000
06	Printing and reproduction	32,287	55,000	60,000
07	Other contractual services	62,635	80,000	85,000
08	Supplies and materials	30,352	40,000	40,000
09	Equipment	38,231	40,000	40,000
11	Grants, subsidies, and contributions	2,912,825	13,327,000	13,327,000
	Contribution to retirement fund			192,000
13	Refunds, awards, and indemnities	3,020	7,000	7,000
15	Taxes and assessments	1,446	3,000	3,000
	Total, Agricultural Marketing Service	5,679,723	17,152,000	17,362,000
	ALLOCATION TO COMMODITY STABILIZATION SERVICE			
	Total number of permanent positions	93	150	150
	Average number of all employees	73	145	145
	Number of employees at end of year	93	150	150
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$4,524	$4,578	$4,602
	Average grade	GS–5.4	GS–5.4	GS–5.5
01	Personal services:			
	Permanent positions	$342,508	$645,700	$643,200
	Regular pay above 52-week base	1,306		2,500
	Payment above basic rates	7,964	16,700	16,700
	Total personal services	351,778	662,400	662,400
02	Travel	6,287	16,900	16,900
03	Transportation of things	1,607	3,900	3,900
04	Communication services	23,194	28,000	28,000
05	Rents and utility services	17,074	22,600	24,100
06	Printing and reproduction	6,625	12,300	12,300
07	Other contractual services	2,317	6,700	6,700
	Advanced to—			
	"Administrative expenses, sec. 392, Agricultural Adjustment Act of 1938," pursuant to 7 U. S. C. 1392	31,000	16,000	16,000
	"Local administration, sec. 388, Agricultural Adjustment Act of 1938," pursuant to 7 U. S. C. 1388	40,000	40,000	40,000
	Services performed by other agencies	382	1,100	1,100
08	Supplies and materials	4,266	7,600	7,600
09	Equipment	3,143	6,200	6,200
11	Grants, subsidies, and contributions	211,377,097	222,128,000	222,128,000
	Contribution to retirement fund			38,500
13	Refunds, awards, and indemnities	211	600	600
15	Taxes and assessments	338	700	700
	Total, Commodity Stabilization Service	211,865,319	222,953,000	222,993,000

Obligations by objects—Continued

	1956 actual	1957 estimate	1958 estimate
ALLOTMENT TO FOREIGN AGRICULTURAL SERVICE			
Total number of permanent positions	234	267	275
Full-time equivalent of all other positions	6	7	7
Average number of all employees	198	237	248
Number of employees at end of year	218	249	256
Average salaries and grades:			
General schedule grades:			
Average salary	$6,403	$6,247	$6,218
Average grade	GS-8.4	GS-8.3	GS-8.2
01 Personal services:			
Permanent positions	$1,233,302	$1,436,000	$1,488,000
Positions other than permanent	33,493	34,000	34,000
Regular pay above 52-week base	3,089		4,000
Payment above basic rates	558		
Other payments for personal services	7,741		
Total personal services	1,278,183	1,470,000	1,526,000
02 Travel	107,354	181,500	191,500
03 Transportation of things	839	2,000	2,200
04 Communication services	28,963	38,000	38,200
06 Printing and reproduction	32,531	45,000	45,700
07 Other contractual services	11,284	81,000	96,000
Services performed by other agencies	56,783	64,000	64,000
08 Supplies and materials	9,225	11,000	12,000
09 Equipment	32,926	24,000	25,900
11 Grants, subsidies, and contributions:			
Contribution to retirement fund			91,200
15 Taxes and assessments	997	1,300	1,300
Total, Foreign Agricultural Service	1,559,085	1,917,800	2,094,000
Total obligations	219,104,127	242,022,800	242,449,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$166,807,174	$199,976,003	$223,500,000
Transferred to—			
"Marketing research and service, Agricultural Marketing Service" (69 Stat. 240, 5 U. S. C. 572)	−38,300		
"Promote and develop fishery products and research pertaining to American fisheries, Fish and Wildlife Service," Department of the Interior (15 U. S. C. 713c-3, as amended by the act of Aug. 8, 1956)	−4,321,403	−4,359,115	−4,600,000
Adjusted appropriation	162,447,471	195,616,888	218,900,000
Balance brought forward:			
Unobligated	300,000,000	244,701,053	198,295,141
Obligated	10,176,393	48,853,177	45,876,063
Restored from certified claims account		86	
Total budget authorizations available	472,623,864	489,171,204	463,071,204
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	179,069,634		828,796
Out of prior authorizations		245,000,000	244,171,204
Total expenditures	179,069,634	245,000,000	245,000,000
Balance carried forward:			
Unobligated	244,701,053	198,295,141	174,746,141
Obligated	48,853,177	45,876,063	43,325,063
Total expenditures and balances	472,623,864	489,171,204	463,071,204

Mr. WHITTEN. The committee will please come to order.

Gentlemen, we turn now to section 32 funds.

At this point in the record I would like to have pages 102 to 113 of the justifications inserted.

(The pages referred to follow:)

Removal of surplus agricultural commodities (sec. 32)

Appropriation, 1957		$199,976,003
Transferred to "Promote and develop fishery products and research pertaining to American fisheries, Fish and Wildlife Service," Department of the Interior, pursuant to Public Law 1024, 84th Cong		−4,359,115
Base for 1958		195,616,888
Budget estimate, 1958:		
Annual permanent appropriation	$223,500,000	
Less estimated transfer to Department of the Interior pursuant to Public Law 1024, 84th Cong	−4,600,000	
		218,900,000
Increase (in annual permanent appropriation for sec. 32 purposes)		+23,283,112

NOTE.—Due to an estimated unobligated balance to be carried forward from fiscal year 1957 of $198,295,141, a total of $417,195,141 is estimated to be available in fiscal year 1958 to the Department of Agriculture. Of this total, the estimates tentatively forecast obligations of $242,499,000. An increase of $426,200 compared with 1957, which would result in an unobligated balance of $174,746,141 being carried forward into the fiscal year 1959.

Summary of increases and decreases, 1958 (on the basis of available funds)

Decrease in surplus removal operating expenses	−$87,000
Increase for administration of marketing agreements and orders	+262,500
Increase for development of foreign market outlets for surplus American agricultural commodities	+88,600
Increase for contributions to the retirement fund pursuant to Public Law 854	+162,100

Project statement

Project	1956	1957 (estimated)	Increase (+) or decrease (−)		1958 (estimated)
			Retirement cost (Public Law 854)	Other	
1. Direct purchases	$206,743,042	$213,128,000			$213,128,000
2. Encouragement of exportation	4,110,989	10,047,000			10,047,000
3. Diversion to byproducts and new uses	3,435,891	12,280,000			12,280,000
4. Surplus removal operating expenses	1,877,280	3,150,000		−887,000	3,063,000
5. Marketing agreements and orders	1,377,840	1,500,000	+$74,500	+262,500	1,837,000
6. Foreign market promotion	1,356,812	1,707,300	+75,100	+88,600	1,871,000
7. Import controls	202,273	210,500	+12,500		223,000
Total obligations	219,104,127	242,022,800	+162,100	+264,100	242,449,000
Unobligated balance carried forward	244,701,053	198,295,141		−23,549,000	174,746,141
Total retirement costs (Public Law 854)	[ ]	[ ]	[+305,600]	[+16,100]	[321,700]
Total available	463,805,180	440,317,941	+162,100	−23,284,900	417,195,141
Recovery of prior year obligations	−1,359,758				

Project statement—Continued

Project	1956	1957 (estimated)	Increase or decrease		1958 (estimated)
			Retirement costs (Public Law 854)	Other	
Unobligated balance brought forward	−$300,000,000	−$244,701,053		+$46,405,912	−$198,295,141
Subtotal	162,445,422	195,616,888	+$162,100	+23,121,012	218,900,000
Transferred to "Marketing Research and Service, Agricultural Marketing Service"	38,300				
Transfer in 1957 estimates to "Salaries and expenses, Office of the Secretary of Agriculture"	2,049				
Subtotal	162,485,771	195,616,888	+162,100	+23,121,012	218,900,000
Transfer to Department of the Interior pursuant to Public Law 1024, 84th Cong	4,321,403	4,359,115		+240,885	4,600,000
Total appropriation or estimate	166,807,174	199,976,003	+162,100	+23,361,897	223,500,000

FUND AVAILABILITY AND BALANCES

The estimates under these projects, particularly 1, 2, and 3, are subject to adjustments contingent upon conditions at the time of use since the extent to which these funds will be required for surplus removal operations will depend upon economic conditions generally, the extent of local market gluts, the volume of agricultural production in this country and foreign countries, and many other complex and unpredictable factors. Further, the type of program developed and the distribution of funds among these projects are dependent upon the action which will best solve the particular surplus removal problem which exists at the time.

In order to make funds available to meet such conditions, and in recognition of the unpredictable factors involved in the use of these funds, Congress has provided for the accumulation of unused balances under this fund up to $300 million. The estimates for both 1957 and1958 are based on the situation as now foreseen. If troublesome surpluses not now foreseen should develop steps would be taken to use additional funds for their removal or diversion as conditions might warrant. The following table reflects the estimated total funds available for section 32 activities and estimated balances carried forward for fiscal years 1956, 1957, and 1958:

Item	1956	1957 (estimated)	1958 (estimated)
Balance from prior year	$300,000,000	$244,701,053	$198,295,141
Recovery of prior year obligations	1,359,758		
Appropriation or estimate	166,807,174	199,976,003	223,500,000
Transfer to Interior Department	−4,321,403	−4,359,115	−4,600,000
Transfer to "Marketing research and service" for travel costs under Public Law 189, 84th Cong	−38,300		
Transfer in estimates to Office of the Secretary for personnel investigations work	−2,049		
Total available	463,805,180	440,317,941	417,195,141
Obligations	−219,104,127	−242,022,800	−242,449,000
Unobligated balances carried forward to subsequent years	244,701,053	198,295,141	174,746,141

Status of Program

CURRENT ACTIVITIES

Under section 32 of the act of August 24, 1935, as amended (7 U. S. C. 612c), an amount equal to 30 percent of customs receipts during each calendar year and unused balances up to $300 million are available for encouraging the exportation and domestic consumption of agricultural commodities. Current activities for removing from the market surplus agricultural commodities include:

(*a*) Purchases for distribution through State distributing agencies to school-lunch programs, and to welfare agencies and institutions eligible to receive such purchases.

(*b*) Encouragement of exports through payments which will permit the sale of surplus commodities in foreign markets.

(*c*) Encouragement of domestic consumption by diversion from normal channels of trade to byproducts and new uses.

The basic authority also provides that these funds shall be devoted principally to perishable nonbasic agricultural commodities (other than those receiving price support under title II of the Agricultural Act of 1949, as amended) and their products. These commodities are tung nuts, honey. milk, butterfat, and the products of milk and butterfat. It has been determined that this provision can be legally satisfied by setting aside or reserving the principal portion of section 32 funds for the use of perishable nonbasic agricultural commodities when the occasion arises warranting their use for such purpose. The remainder of the funds may then be used for other authorized purposes. Not to exceed 25 percent of funds available under the act may be used for any one commodity or product thereof.

Public Law 540 (84th Cong.) provides authority whereby an additional sum of $500 million may be appropriated annually to further carry out the purposes of section 32, of which not to exceed 50 percent of such funds may be used for any 1 commodity.

Section 32 funds are also used for operating expenses consisting of:

(*a*) Surplus removal operating expenses which include administrative costs for direct removal of surpluses from the market, and distribution by the Agricultural Marketing Service of section 32 and CCC commodities to eligible outlets. These funds are also used to encourage food preservation and marketing of abundant foods through the food trades.

(*b*) The administration of marketing agreements and orders which aim to establish and maintain orderly marketing conditions for certain commodities and their products.

(*c*) Development of markets in foreign countries for United States surplus or potentially surplus agricultural commodities.

(*d*) Administration of import programs under section 32 of the Agricultural Adjustment Act of 1933, as amended.

A discussion of activities (*c*) and (*d*) will be found in the justifications for the Foreign Agricultural Service.

SELECTED EXAMPLES OF RECENT PROGRESS AND TRENDS

A. Purchase of agricultural commodities for distribution to authorized agencies

1. During the fiscal year 1956, approximately 680.8 million pounds of agricultural commodities at a cost of approximately $206.7 million were purchased for distribution through authorized agencies. Distribution was made by 85 agencies to an increased number of participants as compared with 1955.

	1955	1956
(1) School children	10,213,400	10,859,200
(2) Persons in eligible institutions	1,333,600	1,374,700
(3) Individual welfare recipients (average monthly)	2,169,000	2,659,400

2. Commodities purchased during fiscal years 1955 and 1956 for distribution through authorized agencies:

Commodity	Unit	1955		1956	
		Quantity	Value	Quantity	Value
Dairy products:					
Butter	Pound		$170,097	75,588,350	$45,416,021
Cheese	do		153,840	57,270,000	22,213,888
Milk	do		99,272	56,432,400	10,848,702
Beans	do	92,856,179	8,782,715	62,500,000	5,151,018
Cornmeal	do			56,127,820	2,507,082
Fruits:					
Cranberry sauce	Case		61,982		
Figs	Ton	1,674	445,559		
Prunes, fresh	Pound			6,241,088	483,861
Honey	do		4,129		
Livestock products:					
Beef	do		380,808		
Lard	do			38,731,200	6,033,241
Pork products	do			158,841,700	95,215,482
Oils: Cottonseed	do	59,147,813	13,264,148	39,880,738	8,261,842
Rice	do			35,000,000	4,140,771
Vegetables:					
Cabbage	do			956,750	22,962
Sweetpotatoes	Bushel			433,485	1,133,196
Wheat flour	Pound			91,213,750	5,314,976
Total			23,362,550		206,743,042

B. Encouragement of exportation of agricultural commodities.—Quantity of commodities exported and payments made during fiscal years 1955 and 1956

Commodity	Unit	1955		1956	
		Quantity	Payment	Quantity	Payment
Fruits:					
Citrus juice, blend [1]	Case	59,011	$26,594	107,869	$34,896
Citrus juice, blend, concentrated	Gallon	1,462	461	787	181
Citrus salad	Case	657	480	4,277	2,394
Grapefruit, fresh	Box	361,600	230,954	428,408	218,127
Grapefruit juice, concentrated	Gallon	75,008	32,771	71,054	26,677
Grapefruit, canned	Case	66,886	49,816	28,804	18,713
Grapefruit juice [1]	do	621,577	283,530	848,828	265,990
Grapefruit juice, dehydrated	Pound			7,031	633
Oranges, fresh	Box	2,651,240	2,013,900	4,197,031	2,235,071
Orange juice, concentrated	Gallon	841,773	419,188	643,309	224,735
Orange juice [1]	Case	525,658	240,713	584,539	185,079
Orange juice, dehydrated	Pound			16,416	1,478
Tangerine juice, concentrated	Gallon			11,297	3,841
Raisins, dried	Ton	21,988	769,825	13,022	390,667
Honey	Pound	21,858,277	544,884		
Wheat	Bushel			896,667	502,507
Total			4,613,116		4,110,989

[1] Single strength.

C. Quantities of commodities diverted and payments made during fiscal years 1955 and 1956

Commodity	Unit	1955		1956	
		Quantity	Payment	Quantity	Payment
Dates	Pound	790,000	$27,617	8,155,579	$244,667
Honey	do	65,755	2,473		
Tree nuts	do	367,591	118,467		
Potatoes	Hundredweight	1,221,051	240,103	10,174,650	3,191,224
Total			388,660		3,435,891

D. Surplus removal operating expenses

1. *Planning surplus-removal programs and distributing commodities.*—In addition to planning surplus-removal programs under section 32, responsibility has been assigned to the Agricultural Marketing Service for the distribution of all surplus commodities. This includes commodities purchased under CCC price support programs which are donated to domestic and foreign outlets.

See table I for quantity, and table II for cost, of surplus commodities distributed for domestic and foreign use, fiscal years 1955 and 1956. The information reflected in these tables represents the fiscal year in which the commodity was distributed and not necessarily the fiscal year in which it was acquired.

2. *Food-preservation program.*—The work performed under this program supplements the direct-distribution activity by furnishing assistance and advice in the preservation of foods and in the operation of preservation centers.

(*a*) Surplus foods preserved during fiscal year 1956 by local preservation centers for redistribution in processed form to schools and other outlets:

Commodity:		*Fiscal year 1956*
Dry beans	pounds	134, 994
Sweetpotatoes	do	546, 071
Fresh Italian prunes	do	176, 451

The commodities which will be processed in 1957 depend upon the volume of local purchases and Federal donations.

(*b*) Assistance and advice furnished to nonprofit food-preservation centers during fiscal years 1956 and estimated for 1957:

Project	Fiscal year 1956 (number)	Fiscal year 1957 (number, estimated)
Technical assistance furnished in improving cannery techniques and in installing equipment	114	90
Workshops conducted in food-preservation training	79	70
Plant surveys performed	39	45
Floor plans and equipment drawings developed and used	18	25

3. *Food-trades program.*—Under this program the consumption of plentiful foods is encouraged through normal channels of trade. The workload under this activity is shown in the following table:

Project	Fiscal year 1956 (number)	Fiscal year 1957 (number, estimated)
Average number of foods listed on monthly abundant-foods list	12	15
Distribution of monthly abundant foods list	37, 826	40, 000
National food drives conducted	6	8
Area, State, and local food drives conducted	28	24

Major food drives were conducted during the past year on dairy products, beef, pork, rice, and potatoes.

E. Marketing agreements and orders

1. Activities under the milk, fruit and vegetable agreement and order programs during fiscal year 1956 and estimated for 1957:

Activity	Dairy		Fruit and vegetables	
	1956	1957	1956	1957
Agreement and order programs in effect	66	71	31	36
Hearings held to consider amendments to existing orders or the issuance of orders in new areas	44	47	12	13
Requests received for new programs	9	5	5	5
Amendments issued to existing orders	81	46	7	7
Suspensions issued to existing orders	10	11	2	
Petitions received for review of various order provisions	13	17	2	2
Petitions disposed of during the year	19	24		3
Court cases started during the year	11	14	22	41
Court cases disposed of during the year	9	11	23	35
Hearings held under Administrative Procedures Act	5	12	14	15
Applications reviewed from cooperatives for qualifications to participate under the act	79	50		
Cases disposed of under the act	75	65		
Regulatory orders issued under provisions of marketing order			318	336
Appointment of administrative or control committees			44	49
Promulgation of committee rulemaking			15	25
Budgets approved	65	71	29	34
Investigation of alleged violations	9	12	287	315
Cases referred to Department of Justice for prosecution	13	16	54	62
Recodification of agreements and orders			1	1
Administrator's decisions issued	43	47	9	14
Secretary's decisions issued	57	47	12	14
Secretary's referendum orders issued	17	18	8	15
Import regulations issued under sec. 8 (c)			15	20

2. Marketing agreement and order programs in effect for fluid milk during fiscal year 1956:

State	City	Estimated number of producers	Estimated amount of pooled milk
			Thousands of pounds
Arizona	Central Arizona	466	174, 931
Arkansas	Fort Smith, central Arkansas	1, 236	129, 872
Delaware	Wilmington	418	3, 429
Illinois	Chicago, Quad Cities (grade A), Rockford-Freeport	23, 010	4, 753, 242
Indiana	Fort Wayne, South Bend-La Porte	1, 957	262, 915
Iowa	Cedar Rapids-Iowa City, Dubuque, Sioux City	1, 531	273, 070
Kansas	Neosho Valley, southwest Kansas, Topeka, Wichita	2, 452	389, 337
Kentucky	Louisville, Paducah	2, 609	371, 148
Louisiana	New Orleans, Shreveport	2, 983	404, 851
Massachusetts	Boston, Fall River, Merrimack Valley, Springfield Worcester.	15, 307	2, 270, 499
Michigan	Detroit, Muskegon, upstate Michigan	13, 768	1, 764, 673
Minnesota	Duluth-Superior, Minneapolis-St. Paul	5, 735	923, 534
Mississippi	Central Mississippi	1, 038	148, 319
Missouri	Kansas City, Ozarks, St. Louis	8, 229	1, 226, 484
Nebraska	Omaha-Lincoln-Council Bluffs	2, 298	305, 856
New York	New York	48, 417	8, 298, 963
Ohio	Akron, Cincinnati, Cleveland, Columbus, Dayton-Springfield, Lima, Stark County, Toledo, Tri-State.	25, 058	3, 112, 825
Oklahoma	Oklahoma City, Tulsa-Muskogee	2, 626	397, 440
Pennsylvania	Philadelphia	7, 536	1, 259, 915
South Dakota	Black Hills, eastern South Dakota, Sioux Falls-Mitchell.	642	130, 186
Tennessee	Appalachian, Knoxville, Memphis, Nashville	4, 320	645, 087
Texas	Austin-Waco, central west Texas, Corpus Christi, north Texas, San Antonio, Texas Panhandle	5, 939	1, 355, 242
Washington	Inland Empire, Puget Sound	4, 776	892, 827
West Virginia	Clarksburg, Wheeling	1, 903	137, 998
Wisconsin	Milwaukee	2, 579	512, 193
Total, 66 markets		186, 833	30, 145, 336
Estimated farm value			$1, 250, 299, 000

3. Fruit and vegetable marketing agreement and order programs in effect during fiscal year 1956:

Orders in effect	Estimated number of commercial producers	Estimated farm values
		Thousands
Citrus fruits:		
California-Arizona Navels miscellaneous oranges	6,660	$53,418
California-Arizona Valencia oranges	10,750	59,375
California-Arizona desert grapefruit	2,000	7,491
California-Arizona lemons	6,100	39,396
Florida oranges [1]	15,000	198,690
Florida grapefruit [1]		33,540
Florida tangerines [1]		9,798
Florida limes	500	2,016
Deciduous fruits:		
Florida avocados	600	1,568
California Tokay grapes	1,200	11,085
Colorado peaches	800	5,168
Georgia peaches	750	[2]
Utah peaches	1,300	960
California Bartlett pears [3]	1,200	23,334
California plums [3]	900	15,222
California Elberta peaches [3]	500	10,781
Oregon-Washington-California winter pears	2,350	19,168
Dried fruits:		
California dates	300	2,880
California figs	300	4,707
California dried prunes	6,000	38,745
California raisins	8,000	34,980
Vegetables:		
Peas and cauliflower, Colorado	74	698
Tomatoes, Florida	1,300	39,507
Potatoes:		
Idaho-Malheur Co., Oregon	8,521	35,561
Colorado	2,594	12,804
Central Oregon-northern California	1,779	12,930
Maine	4,659	51,460
Virginia-North Carolina	4,059	18,000
Eastern South Dakota	267	870
Washington	1,073	7,943
New England except Maine	1,450	8,514
Nuts:		
California almonds	8,500	28,480
Oregon-Washington filberts	3,400	3,256
Southeastern pecans (5 States)	8,500	7,538
West coast walnuts	20,000	40,726
Total, 31 orders		840,609

[1] and [2] 1 order each, respectively.
[3] No estimates made due to crop failure in the 1955 season.

TABLE I.—*Quantity of surplus food distributed for domestic and foreign use, fiscal years 1955 and 1956*

[Million pounds]

Program and commodity	Domestic distribution								Foreign distribution		Total distribution	
	Schools		Institutions		Welfare		Total					
	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956
Sec. 32:												
Beans	27.0	19.3	10.7	8.7	37.2	32.3	74.9	60.3			74.9	60.3
Butter	6.6	18.1	4.2	10.9	2.9	12.2	13.7	41.2			13.7	41.2
Cheese	5.4	10.3	2.2	5.4	3.2	15.3	10.8	31.0			10.8	31.0
Cottonseed oil and shortening	25.7	19.4	15.5	10.2	30.6	17.5	71.8	47.1			71.8	47.1
Cranberry sauce	5.7		1.7		(1)		7.4				7.4	
Fruits, deciduous	3.3	6.2	(1)		(1)		3.3	6.2			3.3	6.2
Honey	.4		.1				.5				.5	
Livestock products	25.3	73.0	7.1	21.5	5.6	54.6	38.0	149.1			38.0	149.1
Milk, nonfat dry	4.5	6.8	1.7	4.5	3.6	15.1	9.8	26.4			9.8	26.4
Rice		7.2		3.9		9.8		20.9				20.9
Vegetables	.1	11.4	.1	8.1	.1	2.5	.3	22.0			.3	22.0
Wheat flour and cornmeal						127.6		127.6				127.6
Total, sec. 32	104.0	171.7	43.3	73.2	83.2	286.9	230.5	531.8			230.5	531.8
Sec. 416:												
Beans		5.4		2.5		9.1		17.0		49.7		66.7
Butter	42.2	33.0	23.2	19.8	30.1	22.2	95.5	75.0	78.3	98.4	173.8	173.4
Butter oil (butter equivalent)									39.8	99.0	39.8	99.0
Cheese	24.8	18.7	12.9	9.9	36.3	27.8	74.0	56.4	88.0	138.5	162.0	194.9
Cottonseed oil and shortening									54.4	17.0	54.4	17.0
Milk, nonfat dry	18.0	15.3	11.5	10.1	40.1	34.1	69.6	59.5	271.4	411.2	341.0	470.7
Rice	6.7	10.2	4.6	5.5	11.5	13.8	22.8	29.5		104.0	22.8	133.5
Wheat and corn		10.4		9.0		.5		19.9		302.7		322.6
Total, sec. 416	91.7	93.0	52.2	56.8	118.0	107.5	261.9	257.3	531.9	1,220.5	793.8	1,477.8
Total, secs. 32 and 416	195.7	264.7	95.5	130.0	201.2	394.4	492.4	789.1	531.9	1,220.5	1,024.3	2,009.6

[1] Less than 50,000 pounds.

NOTE.—It is estimated that approximately 2,852.1 million pounds may be distributed during fiscal year 1957.

TABLE II.—*Cost of surplus food distributed for domestic and foreign use, fiscal years 1955 and 1956*

[Million dollars]

Program and commodity	Domestic distribution								Foreign distribution		Total distribution	
	Schools		Institutions		Welfare		Total					
	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956
Sec. 32:												
Beans	$2.8	$1.8	$1.2	$0.8	$3.9	$3.0	$7.9	$5.6			$7.9	$5.6
Butter	4.0	11.7	2.6	7.1	1.7	7.9	8.3	26.7			8.3	26.7
Cheese	2.2	4.5	.9	2.4	1.3	6.8	4.4	13.7			4.4	13.7
Cottonseed oil and shortening	5.8	4.0	3.4	2.1	6.9	3.6	16.1	9.7			16.1	9.7
Cranberry sauce	.6		.2		(1)		.8				.8	
Fruits, deciduous	.4	.5	(1)		(1)		.4	.5			.4	.5
Honey	.1		(1)				.1				.1	
Livestock products	10.1	40.1	2.9	9.3	2.2	23.4	15.2	72.8			15.2	72.8
Milk, nonfat dry	.9	1.2	.3	.9	.7	2.8	1.9	4.9			1.9	4.9
Rice		.9		.4		1.2		2.5				2.5
Vegetables		.6		.4		.1	(1)	1.1			(1)	1.1
Wheatflour/cornmeal						6.7		6.7				6.7
Total, sec. 32	26.9	65.3	11.5	23.4	16.7	55.5	55.1	144.2			55.1	144.2
Sec. 416:												
Beans		.5		.2		.9		1.6		4.6		6.2
Butter	28.3	21.3	15.5	12.8	20.2	14.4	64.0	48.5	57.7	63.6	121.7	112.1
Butter oil									36.9	67.3	36.9	67.3
Cheese	10.6	8.3	5.5	4.4	15.4	12.2	31.5	24.9	39.3	61.1	70.8	86.0
Cottonseed oil and shortening									13.5	3.6	13.5	3.6
Milk, nonfat dry	3.5	2.8	2.2	1.8	7.9	6.3	13.6	10.9	49.8	75.7	63.4	86.6
Rice	1.0	1.2	.7	.7	1.8	1.7	3.5	3.6		12.6	3.5	16.2
Wheat and corn		.5		.4		(1)		.9		14.0		14.9
Total, sec. 416	43.4	34.6	23.9	20.3	45.3	35.5	112.6	90.4	197.2	302.5	309.8	392.9
Total secs. 32 and 416	70.3	99.9	35.4	43.7	62.0	91.0	167.7	234.6	197.2	302.5	364.9	537.1

[1] Less than $50,000.

NOTE.—It is estimated that commodities valued at approximately $437.8 may be distributed during fiscal year 1957.

Mr. WHITTEN. I do not know whether you have a general statement or not, Mr. Lennartson. We have discussed the section 32 fund generally in connection with other testimony under the school lunch program. I asked you back today because I felt that we should put in the record a complete story on section 32.

My recollection is that section 32 is directed primarily toward giving special attention to perishables. However, those people who are the chief beneficiaries of section 32 funds—that is, those engaged in the production of perishables and citrus products—now criticize nearly all the other farm programs. I have told some of them, personally, that it is time that people became aware of what they are getting under section 32 so that the Congress can decide whether section 32 funds ought to go largely for their benefit or, as formerly, for all farm commodities across the board.

BASIC LEGISLATION

First, I would like to have the original act placed into the record at this point—the pertinent parts of it—and subsequent changes. I would also like to have inserted the part of the report of the 80th Congress, I believe, in which the Department was given directions on this. Then going back at least 6 or 8 years, I would like for the record to show how much section 32 funds we have had.

Mr. LENNARTSON. Yes, sir.

Mr. WHITTEN. I would also like to have information as to what these funds have been used for, the amounts by commodity, and the amount in export subsidies. We would also like to have information as to what part was turned back to the Treasury. I would like for you to bring that right on down to date so that we will have the history of such section 32 funds.

Mr. LENNARTSON. Well, we will be happy to prepare that type of information for you, Mr. Chairman, and add any supplementary information you may desire.

(The information requested follows:)

SECTION 32—ORIGINAL ACT

(Public Law 320, 74th Cong., August 24, 1935, 49 Stat. 774 with amendments enacted prior to the Agricultural Act of 1948—Public Law 897, 80th Cong.)

Section 32 of an Act to amend the Agricultural Adjustment Act, as amended, approved August 24, 1935 was the original authority making available 30 percent of the annual customs receipts—"to encourage the exportation and domestic consumption of agricultural commodities".

"There is hereby appropriated for each fiscal year beginning with the fiscal year ending June 30, 1936, an amount equal to 30 per centum of the gross receipts from duties collected under the customs laws during the period January 1, to December 31, both inclusive, preceding the beginning of each such fiscal year. Such sums shall be maintained in a separate fund and shall be used by the Secretary of Agriculture only to (1) encourage the exportation of agricultural commodities and products thereof by the payment of benefits in connection with the exportation thereof or of indemnities for losses incurred in connection with such exportation or by payments to producers in connection with the production of that part of any agricultural commodity required for domestic consumption; (2) encourage the domestic consumption of such commodities or products by diverting them, by the payment of benefits or indemnities or by other means, from the normal channels of trade and commerce or by increasing their utilization through benefits, indemnities, donations or by other means, among persons in low income groups as determined by the Secretary of Agriculture; and (3) reestablish farmers' purchasing power by making payments in connection with the normal production of any agri-

cultural commodity for domestic consumption. Determinations by the Secretary as to what constitutes diversion and what constitutes normal channels of trade and commerce and what constitutes normal production for domestic consumption shall be final. The sums appropriated under this section shall be expended for such one or more of the above-specified purposes, and at such times, in such manner, and in such amounts as the Secretary of Agriculture finds will affectuate substantial accomplishment of any one or more of the purposes of this section. Notwithstanding any other provisions of this section, the amount that may be devoted, during any fiscal year after June 30, 1939, to any one agricultural commodity or the products thereof in such fiscal year, shall not exceed 25 per centum of the funds available under this section for such fiscal year."

Amendments to Section 32 and Related Legislation

AGRICULTURAL ACT OF 1948

(Public Law 897, 80th Cong., July 3, 1948, 62 Stat. 1057)

Sec. 301. Section 32, as amended, of the Act entitled "An Act to amend the Agricultural Adjustment Act, and for other purposes", approved August 24, 1935 (U. S. C., Title 7, sec. 612c), is amended by adding at the end thereof the following: "The sums appropriated under this section shall, notwithstanding the provisions of any other law, continue to remain available for the purposes of this section until expended; but any excess of the amount remaining unexpended at the end of any fiscal year over $300,000,000 shall, in the same manner as though it had been appropriated for the service of such fiscal year, be subject to the provisions of section 3690 of the Revised Statutes (U. S. C., title 31, sec. 712), and section 5 of the Act entitled 'An Act making appropriation for the legislative, executive, and judicial expenses of the Government for the year ending June thirtieth, eighteen hundred and seventy-five, and for other purposes' (U. S. C. title 31, sec. 713)."

AGRICULTURAL ACT OF 1949, AS AMENDED

(Public Law 439, 81st Cong. October 31, 1949, 63 Stat. 1054; amended by Public Law 290, 83d Cong., January 30, 1954, 68 Stat. 4)

Sec. 404. The Secretary, in carrying out programs under section 32 of Public Law Number 320, 74th Congress, approved August 24, 1935, as amended, and section 6 of the National School Lunch Act may utilize the services and facilities of the Commodity Credit Corporation (including but not limited to procurement by contract, and make advance payments to it).

Sec. 411. Section 32, as amended, of the Act entitled "An Act to amend the Agricultural Adjustment Act, and for other purposes", approved August 24, 1935 (U. S. C., title 7, sec. 612c), is amended by inserting before the last sentence thereof the following: "The sums appropriated under this section shall be devoted principally to perishable nonbasic agricultural commodities (other than those receiving price support under title II of the Agricultural Act of 1949) and their products.

AGRICULTURAL ACT OF 1956

(Public Law 540, 84th Cong., May 28, 1956, 70 Stat. 188)

Sec. 205. There is hereby authorized to be appropriated for each fiscal year, beginning with the fiscal year ending June 30, 1957, the sum of $500,000,000 to enable the Secretary of Agriculture to further carry out the provisions of section 32, Public Law 320, Seventy-fourth Congress, as amended (7 U. S. C. 612c), subject to all provisions of law relating to the expenditure of funds appropriated by such section, except that up to 50 per centum of such $500,000,000 may be devoted during any fiscal year to any one agricultural commodity or the products thereof.

TO MAKE CORN MEAL AND WHEAT FLOUR AVAILABLE TO NEEDY PERSONS

(Public Law 311, 84th Cong., August 9, 1955, 69 Stat. 608)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Agriculture is hereby authorized upon specific request of the Governor of any State during the period commencing with the date of this Act and ending June 30, 1957, to make available, pursuant to clause (2) of section 32 of the Act approved August 24, 1935 (7 U. S. C. 612c) for distribution by State agencies, other than institutions and schools, directly to families and persons determined by appropriate State or local public welfare agencies to be in need, wheat flour and corn meal in such quantities as the Secretary of Agriculture determines can be effectively distributed and utilized within such period without regard to the requirement contained in said section 32, that such funds be devoted principally to perishable nonbasic agricultural commodities and their products, but not more than $15,000,000 of such funds shall be devoted in any fiscal year to carrying out this Act. Such flour and meal shall be made available by the Secretary upon such conditions as he deems to be in the public interest, to such State agency or agencies as may be designated by the proper State authority and approved by the Secretary, and at one or more central locations in such State.

TO FURTHER ENCOURAGE THE DISTRIBUTION OF FISHERY PRODUCTS, AND FOR OTHER PURPOSES

(Public Law 466, 83d Cong., July 1, 1954, 68 Stat. 377, as amended by Public Law 1024, 84th Cong., August 8, 1956, 70 Stat. 1119)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2 of the Act of August 11, 1939 (53 Stat. 1411), is hereby amended to read as follows:

"Sec. 2. (a) The Secretary of Agriculture shall transfer to the Secretary of the Interior each fiscal year, beginning with the fiscal year commencing July 1, 1954, and continued for the year ending June 30, 1957 and each year thereafter from moneys made available to carry out the provisions of section 32 of such Act of August 24, 1935, an amount equal to 30 per centum of the gross receipts from duties collected under the customs laws on fishery products (including fish, shellfish, mollusks, crustacea, aquatic plants and animals, and any products thereof, including processed and manufactured products), which shall be maintained in a separate fund and used by the Secretary of the Interior (1) to promote the free flow of domestically produced fishery products in commerce by conducting a fishery educational service and fishery technological, biological and related research programs, the moneys so transferred to be also available for the purchase or other acquisition, construction, equipment, operation, and maintenance of vessels or other facilities necessary for conducting research as provided for in this section, and (2) to develop and increase markets for fishery products of domestic origin and (3) to conduct any biological, technological, or other research pertaining to American fisheries.

"(b) For the purposes of this section, any agency of the United States, or any corporation wholly owned by the United States, is authorized to transfer, without reimbursement or transfer of funds, any vessels or equipment excess to its needs required by the Secretary of the Interior for the activities, studies, and research authorized herein.

"(c) In carrying out the purposes and objectives of this section, the Secretary of the Interior is directed as far as practicable to cooperate with other appropriate agencies of the Federal Government, with State or local governmental agencies, private agencies, organizations, or individuals, having jurisdiction over or an interest in fish or fishery commodities, and he is authorized to appoint an advisory committee of the American fisheries industry to advise him in the formulation of policy, rules and regulations pertaining to requests for assistance, and other matters.

"(d) The Secretary of the Interior is further authorized to retransfer any of the funds not to exceed $1,500,000 to be made available under this section to the Secretary of Agriculture to be used for the purposes specified in section 1 of this Act, and only such funds as are thus transferred shall be used for the purposes specified in section 1 of this Act with respect to domestically produced fishery products.

"(e) The separate fund created for the use of the Secretary of the Interior under section 2 (a) of this Act and the annual accruals thereto shall be available for each year hereafter until expended by the Secretary.

"(f) The Secretary of the Interior shall make a report to the appropriate committees of Congress annually on the use of the separate fund created under section 2 of this Act."

HOUSE OF REPRESENTATIVES, REPORT NO. 1571, 80TH CONGRESS, 2D SESSION, DEPARTMENT OF AGRICULTURE APPROPRIATION BILL, FISCAL YEAR 1949

SECTION 32 FUNDS

Section 32 of the act of August 24, 1935, as amended, makes an annual appropriation of an amount equal to 30 percent of the gross receipts from taxes collected under the customs laws during the current year next preceding the beginning of each fiscal year. The purpose of the appropriation, when originally enacted, was to eliminate farm surpluses (1) by encouraging the exportation of agricultural commodities through the payment of export bonuses or by payments to producers in connection with the production of that part of any agricultural commodity required for domestic consumption, or (2) to encourage the domestic consumption of such commodities by diverting them from the normal channels of trade in commerce through the payment of benefits or indemnities or by increasing their utilization through benefits, indemnities, donations, or by other means, among persons in low-income groups. Another purpose was to reestablish farmers' purchasing power by making payments in connection with the normal production of any agricultural commodity for domestic consumption.

Thirty percent of the presently estimated amount of customs receipts for the calendar year 1947 is $135 million and that sum becomes the amount of the permanent appropriation known as "section 32 funds" for the fiscal year 1949. The President's budget sets up an amount of $44 million as the total amount estimated by the executive department to be required under the terms of section 32 for expenditure during the fiscal year 1949. The budget proposes that the balance of the appropriation, or $91 million, shall be rescinded effective July 1, 1948, and be carried to the surplus fund and covered into the Treasury. The committee has rejected the President's proposal with respect to this permanent appropriation. It has earmarked $65 million of this permanent appropriation for the national school-lunch program and has deleted the language submitted by the budget which would rescind any portion of the appropriation. This will result in definitely earmarking a total of $109 million, leaving the remainder of $26 million available for expenditure for any of the authorized purposes set up by section 32 for which needs may arise in the future.

The committee believes that greater emphasis should be placed by the Department on the application of section 32 funds to perishable products than has been the case in the past. It believes that the producer of perishable commodities is as much entitled to the benefits of this fund as are the producers of the nonperishable crops.

The committee's attention has been repeatedly called in recent years to the complaints of manufacturers of insulating materials not made of cotton to what these manufacturers assert amounts to unfair competition from the manufacturers of cotton insulation because the latter have enjoyed, exclusively, a very substantial subsidy. When this subsidy was begun a number of years ago, cotton was then in surplus and economical processes of manufacturing insulation from cotton had not yet been developed. Competing manufacturers assert that, in view of the present high prices of, and strong world demand for, cotton and of the perfection of the process for the making of cotton insulation, these subsidies ought to be eliminated in the interest of fair competition. The committee has the assurance that these subsidies are paid in a constantly diminishing ratio. It has not inserted a provision forbidding the payment of such bonuses, although such a provision was seriously considered. It expects, however, that the fiscal year 1949 shall mark the conclusion of the payments of these bonuses.

Removal of Surplus Agricultural Commodities

Source of funds, obligations, and disposition of balances, fiscal years 1947–57

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
Funds available:										
Balance from previous year [1]					$47,971,350	$117,541,091	$221,971,780	$303,864,923	$272,355,346	$301,359,758
Appropriation (30 percent of customs)	$118,052,638	$149,023,930	$132,947,728	$125,606,982	111,192,249	158,886,746	181,040,312	172,417,343	180,091,952	166,807,174
Supplemental appropriation [2]	73,119,433									
Reimbursement to appropriation [3]	661,976	724,468						48,098		
Total available	191,834,047	149,748,398	132,947,728	125,606,982	159,163,599	276,427,837	403,012,092	476,330,364	452,447,298	468,166,932
Less: Interior Department	146,322	158,010	171,859	168,528	164,824	173,180	172,597	172,455	4,207,826	4,321,403
Available to U. S. Department of Agriculture	191,687,725	149,590,388	132,775,869	125,438,454	158,998,775	276,254,657	402,839,495	476,157,909	448,239,472	463,845,529
Used by U. S. Department of Agriculture:										
Commodity program costs	71,706,645	73,341,643	53,225,610	73,497,855	37,645,813	51,140,636	68,471,110	198,558,688	28,364,326	214,289,922
Administrative expenses	3,583,212	1,798,979	2,402,373	3,893,985	3,753,124	3,061,241	3,052,944	3,563,410	3,918,128	4,774,205
Transfers to other U. S. Department of Agriculture uses by legislative action	91,061,545	65,142,855	75,000,000	75,264	58,747	81,000	10,000	1,680,465	245,201	80,349
Total used by U. S. Department of Agriculture	166,351,402	140,283,477	130,627,983	77,467,104	41,457,684	54,282,877	71,534,054	203,802,563	32,527,655	219,144,476
Balance	25,336,323	9,306,911	2,147,886	47,971,350	117,541,091	221,971,780	331,305,441	272,355,346	415,711,817	244,701,053
Returned to Treasury	25,336,323	9,306,911	2,147,886				27,440,518		114,352,059	
Balance carried forward				47,971,350	117,541,091	221,971,780	303,864,923	272,355,346	301,359,758	244,701,053

[1] Beginning in 1951 unused balances at June 30, up to $300 million, remain available for sec. 32 purposes. Balances at June 30, 1953 and 1955, were in excess of $300 million and the excess at that time was returned to the Treasury. Subsequent to those dates, recovery in prior-year obligations increased the 1953 balance available in 1954 by $3,864,923 and the 1955 balance available in 1956 by $1,359,758.

[2] Special legislation authorized the use in 1947 of the total unused balances in the 3 previous years' appropriations.

[3] 1947 and 1948 represent differential between purchase and sale of commodities diverted to new uses; 1954, services rendered.

Obligations by commodities, fiscal year 1957 (July 1–Dec. 31, 1956)

Program and commodity	Unit	Quantity	Value
Direct purchases:			
Beans, dry	Hundredweight	265,000	$2,246,071
Cabbage	50-pound bag	193,946	265,970
Dairy products:			
Butter	Pound	18,600,000	11,635,058
Cheese	do	43,700,000	17,757,308
Milk	do	50,000,000	10,053,417
Livestock products:			
Beef	do	72,033,000	25,336,024
Lard	do	21,552,000	4,028,371
Pork	do	6,573,600	3,157,453
Plums, fresh	do	2,228,200	258,365
Poultry:			
Shell egg	Case	584,134	6,862,071
Turkeys	Pound	27,114,000	10,310,821
Rice	Hundredweight	329,400	4,008,633
Wheat flour and cornmeal	Bushel	23,018,000	1,180,698
Total			97,100,260
Exportation:			
Citrus:			
Citrus juice, blend, s. s	Case	2,301	705
Citrus juice, blend, concentrated	Gallon	225	52
Citrus salad	Case	1,190	684
Grapefruit, fresh	Box	45,700	22,869
Grapefruit juice, s. s	Case	24,342	7,584
Grapefruit juice, concentrated	Gallon	20,218	6,597
Grapefruit sections	Case	6,327	3,713
Oranges, fresh	Box	937,046	452,085
Orange juice, s. s	Case	36,782	11,438
Orange juice, concentrated	Gallon	93,482	33,103
Orange juice, dehydrated	Pound	948	85
Tangerine juice, concentrated	Gallon	6,007	2,043
Poultry	Pound	3,646,203	204,941
Wheat	Bushel	11,800,000	7,787,216
Total			8,533,115
Diversion:			
Dates, dried	Pound	7,910,000	311,900
Potatoes	Hundredweight	9,865,882	3,970,350
Total			4,282,250
Total, all programs			109,915,625

Obligations by program and commodity, fiscal years 1947–56

Program and commodity	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
Direct purchases:										
Beans, dry	$3,221			$50,564	$22,411	$10,720		$1,239,101	$8,782,715	$5,151,018
Beef							$1,382,188	83,822,255	[1] 380,808	
Cornmeal										2,507,082
Cottonseed oil							935,760	10,575,443	13,264,148	8,261,842
Dairy products:										
Butter				12,750,642			16,672,993	58,288,949	[1] 170,097	45,416,021
Cheese							715,987	21,891,222	[1] 153,840	22,213,888
Milk, nonfat dry			$1,823,100	2,791,501		4,174,675	4,386,656	6,940,763	[1] 99,272	10,848,702
Fruits:										
Citrus	34,062	$4,854,022	[1] 76,108			4,427,543	934,347			
Deciduous, canned and fresh		4,074,844	[1] 239,292	10,027,950	9,595,490	3,237,384	2,381,157	1,528,460	[1] 61,982	
Deciduous, dried		7,848,072	[2] 2,000,048	387,472					445,559	483,861
General vegetables	681,297	1,181,912	444,740	360,924	184,852					1,156,158
Honey		822,158	1,715,950	[1] 173,052	1,042,661	2,916,283	1,157,286	86,764	[1] 4,129	
Lard										6,033,241
Other [3]				−6	−137	2,267	444,417	−18,145		
Pork and pork products						12,176,772				95,215,482
Potatoes, Irish	4,791,497	12,390,924	10,651,888	4,842,726				839,604		
Poultry products:										
Eggs	10,697,769	13,120,487	8,820,554	6,587,813		3,697,872				
Turkeys				3,639,864	2,545,113		26,662,342			
Rice										4,140,771
Tree nuts		1,133,820				2,404,493		401,741		
Wheat flour										5,314,976
Total	16,207,846	45,426,239	25,771,680	41,612,502	13,390,390	33,048,009	55,673,133	185,596,157	23,362,550	206,743,042
Exportation:										
Cotton	32,770,280	2,022,263	1,884	257	289					
Eggs		6,592,707	5,036,707	3,033,833	2,562,319					
Flaxseed			4,191,686	160,242	1,096,057					
Fruits:										
Citrus			779,590	2,123,487	6,478,908	5,221,355	5,510,158	5,331,380	3,298,407	3,217,815
Deciduous, canned and fresh			25,080	2,702,420	3,165,477	4,019,622		298,287		
Deciduous, dried		2,738,955	6,776,474	9,190,330	3,566,259	7,219,915	4,730,767	2,229,752	769,825	390,667
Honey				135,492	502,347	645,730	1,510,378	675,076	544,884	
Peanuts			10,167,023	4,559,192	876,074					
Other [4]	971,745	8,546,500		381,519	6,005,690			687,209		
Wheat				2,286,798				2,803,206		502,507
Total	33,742,025	19,900,425	26,978,444	24,573,570	24,253,420	17,106,632	11,751,303	12,024,910	4,613,116	4,110,989

See footnotes at end of table, p. 1028.

Obligations by program and commodity, fiscal years 1947–56—Continued

Program and commodity	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
Diversion:										
Cotton and cotton insulation	$1,688,112	$460,319	$233,487	$19,900						
Fruits:										
Deciduous, dried			193,234	3,336,607					$27,617	$244,667
Deciduous, fresh		27,738	48,765							
Other [3]				26,386	$2,003		$8,281	$1,219	2,473	
Potatoes, Irish	20,068,662	7,526,922						936,402	240,103	3,191,224
Tree nuts				3,928,890		$985,995	1,038,393		118,467	
Total	21,756,774	8,014,979	475,486	7,311,783	2,003	985,995	1,046,674	937,621	388,660	3,435,891
Total, all programs	71,706,645	73,341,643	53,225,610	73,497,855	37,645,813	51,140,636	68,471,110	198,558,688	28,364,326	214,289,922

[1] Transportation on prior year purchases.
[2] Includes $267,654 transportation on prior year purchases.
[3] Commodities covered: 1953, olive oil; other years, unidentifiable adjustments on purchases.
[4] Commodities covered: 1947, potatoes; 1948, tobacco; 1950, linseed oil; 1951, linseed oil ($7,383) and sorghum grains ($5,998,307); and 1954, corn.
[5] Commodities covered: 1950, sorghum grains; other years, honey.

POLICY ON SECTION 32 FUNDS

Mr. WHITTEN. I have had 2 or 3 people come to me—I do not know what their problem is. Some of them are in the bean trade, and some are with various other so-called minor commodities. They have raised the question that you have not had any fixed policy with respect to section 32 funds. They claim it has been a hit-or-miss, helter-skelter sort of operation in the last several years. Do you have at the beginning of a fiscal year any set program as to what you are going to do with section 32 funds?

Mr. LENNARTSON. Yes, we do, Mr. Chairman. Under the budgetary process it is necessary, and it is essential in the management of section 32 to attempt to anticipate the type of problems you are going to have commodity by commodity for the year ahead. I must emphasize this attempt to anticipate because economic conditions themselves are the ones that dictate the actions that might be taken subsequently. So, at the beginning of each fiscal year, we do review the possible needs and the possible programs under section 32 with respect to purchases, diversions, export subsidies, and so forth.

With regard to your comment that you might have had from the bean people, I think what has occurred is a desire on the part of certain commodity groups to take section 32 funds and purchase stocks from the Commodity Credit Corporation in order to distribute them to eligible outlets in this country or to purchase stocks on the open market during a period after CCC concluded its program and prior to announcement of the succeeding program.

The Department this past fall has reviewed its practices and has recently developed a policy on the management of section 32 funds which is one where the funds will be held primarily to be used on the perishable commodities. This policy provides for setting aside for perishables at the beginning of each fiscal year the principal portion of the available section 32 funds plus estimated amounts for such additional perishable needs as can reasonably be foreseen. In other words, we desire to protect the section 32 funds so that we would have available amounts needed for any current year's foreseeable perishable needs and unless so needed currently, have available a carryover of $300 million at the beginning of any fiscal year, plus the additional funds derived from the 30 percent of the customs receipts. Essentially, we would have available practically $500 million at the beginning of most fiscal years which under the 25-percent rule and foreseeable outlets, would take care of any broad or substantial market break that might occur in any of the large perishable commodity fields for which section 32 funds, as you say, were designed to be used.

OBLIGATION OF FUNDS BY COMMODITIES, 1950–56

Mr. WHITTEN. How much money have you used in the last several years since we changed the law and gave you directions to use it primarily for perishables?

Mr. LENNARTSON. I do not know if I have those details here, but I can provide them for the record. Do you just want to limit it to citrus?

Mr. WHITTEN. I would like to have the table in the record also.

Mr. LENNARTSON. We will be happy to provide that, Mr. Chairman.

Mr. WELLS. We will expand this table, Mr. Chairman, to cover that.

You want total section 32 expenditures, as I understand it, by commodities and also for citrus, by domestic purchase and export subsidy?

Mr. WHITTEN. Yes, sir, so we will have the full story.

Mr. WELLS. Yes, sir, we will fix up a connected story.

(The tables requested follow:)

Obligations for commodity programs, by commodity groupings since enactment of the amendments to sec. 32 contained in the Agricultural Act of 1949, as amended, fiscal years 1950–56

Commodity groupings	Type of program			Total
	Direct purchases	Exportation	Diversion	
Cotton	$33,037,193	$546	$19,900	$33,057,639
Dairy products	207,515,208			207,515,208
Eggs and poultry	43,133,004	5,596,152		48,729,156
Fruits, vegetables, and tree nuts	59,402,649	69,464,841	14,048,365	142,915,855
Grain and products	11,962,829	13,923,228	26,386	25,912,443
Livestock products	199,010,746			199,010,746
Peanuts and products		5,435,266		5,435,266
Honey, and other	5,364,154	4,013,907	13,976	9,392,037
Total	559,425,783	98,433,940	14,108,627	671,968,350

Obligations by individual commodities, fiscal years 1950–56

	1950	1951	1952	1953	1954	1955	1956	Total 1950–56
Almonds	$727,351		$985,995					$1,713,346
Apples (canned, dried, fresh)	9,766,429	$9,564,291	6,993,748	$108,112				26,432,580
Apricots, dried					$271,090			271,090
Beans (dry, lima, snap)	97,207	22,411	10,720		1,239,101	$8,782,715	$5,151,018	15,303,172
Beef				1,382,188	83,822,255	380,803		85,585,251
Beets		19,798						19,798
Butter	12,750,642			16,672,993	58,288,949	170,097	45,416,021	133,298,702
Cabbage	133,083	30,396					22,962	186,441
Cheese				715,987	21,891,222	153,840	22,213,888	44,974,937
Cherries		1,880,267		347,288				2,227,555
Citrus (juice and salad)		17,581	17,890	44,611	20,988	27,535	37,471	166,076
Corn					687,209			687,209
Cornmeal							2,507,082	2,507,082
Cotton	20,157	289						20,446
Cottonseed oil				935,760	10,575,443	13,264,148	8,261,842	33,037,193
Cranberries		1,187,253			1,147,215	61,982		2,396,450
Dates						27,617	244,667	272,284
Eggs	9,621,646	2,562,319	3,697,872					15,881,837
Figs	11,515					445,559		457,074
Filberts	262,692							262,692
Flaxseed	160,242	1,096,057						1,256,299
Grapefruit (juice and fruit)		437,546	234,926	341,397	473,237	597,071	530,140	2,614,317
Honey	308,544	1,547,011	3,562,013	2,675,945	763,059	551,486		9,405,058
Lard							6,033,241	6,033,241
Lemons (fruit and juice)			296,624	99,429				396,053
Linseed oil	381,519	7,383						388,902
Milk	2,791,501		4,174,675	4,386,656	6,940,763	99,272	10,848,702	29,241,569
Olive oil				444,417				444,417
Oranges (fruit and juice)	2,123,487	6,023,781	9,099,468	5,959,068	4,837,155	2,673,801	2,646,363	33,363,123
Peanuts	4,559,192	876,074						5,435,266
Pears	2,849,223	449,656	578,456	1,925,757	679,532			6,482,624
Pecans			2,404,493		401,741			2,806,234
Pork			12,176,772				95,215,482	107,392,254
Potatoes, Irish	4,842,726				1,776,006	240,103	3,191,224	10,050,059
Potatoes, sweet	137,228	134,658					1,133,196	1,405,082
Prunes (dried and fresh)	5,704,012	1,848,490	2,958,199	277,228			483,861	11,271,790
Raisins	7,313,600	1,397,269	3,946,518	4,453,539	1,958,662	769,825	390,667	20,230,080
Rice							4,140,771	4,140,771
Sorghums, grain	26,386	5,998,307						6,024,693
Spinach	43,970							43,970
Tangerines (fruit and juice)							3,841	3,841
Turkeys	3,639,864	2,545,113		26,662,342				32,847,319
Walnuts	2,938,847			1,038,393		118,467		4,095,707
Wheat	2,286,798				2,803,206		502,507	5,592,511
Wheat flour							5,314,976	5,314,976
Other	−6	−137	2,267		−18,145			−16,021
Total	73,497,855	37,645,813	51,140,636	68,471,110	198,558,688	28,364,326	214,289,922	671,968,350

Citrus fruits programs, obligations, fiscal years 1950 through 1956

Program	Amount	Program	Amount
Direct purchases:		Grapefruit, canned	$117,607
Orange juice, concentrated	$4,427,543	Grapefruit juice, dehydrated	633
Orange juice, s. s	934,347	Lemons, fresh	394,776
		Lemon juice, s. s	1,277
Total	5,361,890	Oranges, fresh	23,108,820
		Orange juice, s. s	1,431,820
Exportation:		Orange juice, concentrated	3,399,115
Citrus juice blend, s. s	161,893	Orange juice, dehydrated	1,478
Citrus juice blend, concentrated	642	Tangerine juice, concentrated	3,841
Citrus salad	3,173		
Grapefruit, fresh	1,139,761	Total	31,181,520
Grapefruit, orange segments	363		
Grapefruit juice, s. s	1,154,370	Grand total	36,543,410
Grapefruit juice, concentrated	201,946		

Citrus fruits program

	Direct purchases	Exportation	Total
1950		$2,123,487	$2,123,487
1951		6,478,908	6,478,908
1952	$4,427,543	5,221,365	9,648,908
1953	934,347	5,510,158	6,444,505
1954		5,331,380	5,331,380
1955		3,298,407	3,298,407
1956		3,217,815	3,217,815
Total	5,361,890	31,181,520	36,543,410

DIFFICULTIES OF ESTIMATING SECTION 32 FUNDS REQUIREMENTS

Mr. WELLS. May I, in connection with the statement that Mr. Lennartson just made, call your attention to a paragraph which appears in the President's printed budget which I think you should be aware of on the use of section 32 funds? The reason I do this is because we are constantly faced in the Department with the problem of estimating for budgetary purposes the amounts of section 32 funds which may or may not be used in future years.

(The paragraph referred to is as follows:)

The use of section 32 program funds is contingent upon economic conditions, the type of program being dependent upon the action which will best solve the particular need at the time. The estimates for both 1957 and 1958 are based on the situation as now foreseen. If troublesome surpluses not now foreseen should develop, steps would be taken to use additional funds for their removal or diversion as conditions might warrant.

Mr. WELLS. In this program we make the best estimate we can, but you recognize that there are always contingencies, Mr. Chairman, which do arise during the year, and if the funds are not included in our estimated obligations, they are still available for obligation under those contingencies as long as there are sufficient balances in the fund. You simply cannot predict in an operation of this nature and foresee every event which you may run into, and some of those that you do foresee do not materialize.

For example, this past fall a total of $100 million was scheduled for the purchase of pork and lard. Actually, we only spent $7 million. So, here was a possible need for $100 million where $7 million sufficed to do the job.

FUNDS FOR FOREIGN AGRICULTURAL SERVICE

Mr. WHITTEN. How much money have you transferred to the Foreign Agricultural Service from section 32 funds?

Mr. HOLMAAS. Mr. Chairman, the amounts are shown on page 102 of the justifications under items 6 and 7, "Foreign market promotion" and "Import controls," and in fiscal year 1956 that adds up to $1,559,000. Those two projects are the Foreign Agricultural Service projects.

Mr. WHITTEN. What is the general nature of those projects, and why are they financed from sectio 1 32 funds rather than by appropriation to the Foreign Agricultural Service.

Mr. LENNARTSON. We do not have the details on the type of projects they are engaged in, Mr. Chairman.

Mr. WELLS. We have a note in the AMS justifications calling attention to them, what they are, and indicating that the explanation is in the Foreign Agricultural Service material.

Mr. WHITTEN. Well, we will have that presentation when we come to it.

Mr. WHEELER. The complete detail is in the Foreign Agricultural Service justifications right in the project statement. The base amount and increases are justified just like our direct appropriations.

ESTIMATE OF FUND BALANCES AT FISCAL YEAR END

Mr. WHITTEN. Do you recommend, in connection with section 32 funds, the return of any part of them to the Treasury during the next fiscal year?

Mr. WELLS. It is difficult at the present time, Mr. Chairman, to make a precise estimate. Due to the fact that our pork purchases were only some $7 million rather than $100 million, the best guess we could make as of now is that we will be pretty close to even as of the end of this fiscal year, June 30th. That is, we might return a few million dollars or we might run a few million dollars under the $300 million carryover. It depends upon what develops between now and the end of the year. However, we have tried to make the best guess we could as of now. It will be close to the $300 million maximum carryover—a few million dollars over or under.

Mr. WHEELER. Mr. Whitten, you recall that since the amendment several years ago we were permitted to carry over up to $300 million each year before any reverts to the Treasury. Since that provision went into effect, I think only twice did the balance exceed $300 million. So, that money was returned to the Treasury.

PRICE SUPPORT VERSUS SURPLUS REMOVAL FOR HOGS

Mr. MARSHALL. In order that I may understand your policies in connection with the purchase of commodities under section 32, at what level did you attempt to support the price of hogs a year ago?

Mr. WELLS. Well, Mr. Marshall, I think it is fair to say—and this is a question that the Secretary and his policy staff and myself worked on—the Department did not attempt to necessarily support the price of hogs at any fixed level.

The section 32 operations as a rule are designed to remove as much of the product from the market as we could find an outlet for through

school lunches, through distribution to charitable institutions, to needy persons, through means of export subsidies, or through means of diversion payments rather than to support a particular fixed price. I think you can appreciate that for a product such as pork—where the annual sales would run, I should think, $3 billion or better, that the amount available under section 32 would hardly be enough to guarantee a fixed price. You see, we may not use more than 25 percent of the section 32 funds for any one commodity. So the total amount we had available this last year was around $440 million and the maximum amount we could spend on hogs under the law was about $110 million. The Department under a fixed price support program must stand ready to take whatever amount is necessary in order to support that price. I do not, myself, feel—this is a personal judgment—that $100 million or $110 million is enough financing to fix the support price of hogs but rather that if that were to be done, it is the type of operation that would have to be carried forward under Commodity Credit Corporation funds.

We did estimate last fall that circumstances might have developed so we would have to spend a considerable amount of money for hogs, and the actual programs which were approved, Mr. Chairman, were those which would provide $100 million for pork and lard. Fortunately, soon after we started purchasing the price moved up rather substantially and the purchases were suspended after we had expended, I think, about $7 million.

Mr. MARSHALL. Your expenditure of $7 million was based upon outlet that you had rather than the amount of the support price?

Mr. WELLS. No; the original purpose was to—this is a case, incidentally, where the entry in the market was made fairly early—give as much assistance as we could to the producers. Certainly, with hog prices moving up as they did very sharply, the purchases were discontinued although we could have used much more pork in the outlets than was purchased.

Mr. MARSHALL. Maybe you and I are talking about two different things. You are talking about the situation which existed last fall?

Mr. WELLS. Yes, sir. Were you talking about the situation of 2 years ago?

Mr. MARSHALL. Yes, sir.

Mr. WELLS. Two years ago we spent practically the full amount—over $101 million—and there our purchases were controlled by the amount we could handle, including all that we were able to successfully dispose of during that year, and I believe a carryover of over 40 million pounds of pork to go to the schools this fall. We thought it was good business to carry it over the summer and have it in the pipeline for distribution to the schools when they opened in the fall.

Mr. MARSHALL. At no time did you make any announcement of a set price?

Mr. WELLS. No, sir.

Mr. MARSHALL. It was done on the basis of going in and purchasing as the occasion arose?

Mr. WELLS. That is right, in endeavoring to find ways and means of increasing consumption outside normal channels of trade.

Mr. LENNARTSON. The fiscal year 1956, Mr. Marshall, that would be the fall of calendar year 1955 that we are discussing.

Mr. MARSHALL. In fiscal year 1956 you used approximately $100 million?

Mr. LENNARTSON. We used $101,248,000.

Mr. WELLS. Which amount was close to our 25-percent limitation. We were within a few million dollars of our limitation, without taking into account overhead expenses.

Mr. MARSHALL. What was the last date on which you bought hogs under this program, or pork products?

Mr. LENNARTSON. The last date was on November 21. The last purchases were made on November 22, 1956.

DETERMINATION OF AVAILABLE OUTLETS FOR SURPLUS COMMODITIES

Mr. MARSHALL. As has been previously mentioned, you have an estimate as to the outlets that you have for the commodities that you purchase through section 32 funds?

Mr. LENNARTSON. We do not have those now. In the event that a program appeared necessary, we would go out and determine at that time the quantity that could be distributed through known outlets. There, of course, consideration is given not only to the school lunch program but to the adaptability of the commodity to use in institutions or for welfare feeding.

Mr. MARSHALL. So at the present time insofar as section 32 funds are concerned, and if someone were to ask you today how many commodities you have an outlet for that you could purchase under section 32, your answer would be "No?"

Mr. LENNARTSON. In specific terms, my answer would be "No."

Mr. MARSHALL. You would have to go out to the field to get that information?

Mr. LENNARTSON. We would go out and determine how much could be used at that time. Now, of course, based upon past experience we would have some general idea. For instance, we know from our experience in 1955 and 1956 that the schools and the institutions could use the equivalent of at least $100 million worth of pork of the type of products which we distributed at that time.

Mr. WELLS. It also depends, Mr. Marshall, upon the commodities. It is one thing to estimate how much pork will be moved into schools, but it is another thing to estimate how much could be handled if you were asked to handle turkeys, pork, and beef all at the same time, which is about the situation we were facing last fall. We have some tentative estimates as to what we think the school lunch program and other programs will take, but we stay out of the position of forcing commodities upon the State school agencies. It comes right down to an operating program and asking the State agencies to give us an estimate of what they want. So, we have, generally, a rough idea as to what is needed. However, these ideas are dependent, in general, on the mix of the commodities, and whether we are asked to handle one commodity or a dozen commodities and, finally, they are subject to the actual ordering on the part of the State agencies themselves.

PURCHASE OF PERISHABLE COMMODITIES

Mr. MARSHALL. Mr. Wells, I realize that you are not in the policy-making position, and that you did not make some of the policies which now exist in the Department of Agriculture, but at this point I want to

make my position clear: I feel that as far as handling the purchase of perishable commodities under section 32 funds, that by going into the market and buying them on a piecemeal basis that we are not only frittering away the taxpayers' money without the desired results, but we are also creating an uncertainty in the market that is hurting the producer to a considerable extent.

Mr. WHITTEN. Mr. Andersen, do you have any questions?

EFFECTS OF TIMING ON SECTION 32 PURCHASES

Mr. ANDERSEN. Yes; Mr. Chairman.

I would like to follow, for a few minutes, that same line of thought which Mr. Marshall pursued.

Let us take, for example, turkeys.

TURKEYS

In the first place, how many turkeys were purchased during this last fiscal year for the school lunch program, or for disposal purposes?

Mr. LENNARTSON. We purchased a total of 25,310,000 pounds between the period of September 27 through November 23, which, of course, is the peak of your marketing season.

Mr. ANDERSEN. I wanted that in the record.

Mr. LENNARTSON. Yes, sir.

Mr. ANDERSEN. What was the average price paid for that product?

Mr. LENNARTSON. The average price was 38.23 cents per pound.

Mr. ANDERSEN. Now, on what dates were those purchases made?

Mr. LENNARTSON. They were purchased in the period from September 27 through November 23.

Mr. ANDERSEN. That gets me to my question:

We knew, did we not, back in July or August, that there would be difficulties as far as turkey prices were concerned?

Mr. LENNARTSON. We did, sir. We anticipated it.

Mr. ANDERSEN. Could we have accomplished more had you entered the market a little bit earlier than you did?

Mr. LENNARTSON. I question whether we could have done any better job for the turkey industry than we did, Mr. Andersen, by virtue of the fact that while you may have had some distressed prices during the late summer, in July and August, the movement of turkeys then is small compared to the peak movement heading for the Thanksgiving and Christmas holidays.

Mr. ANDERSEN. I recognize that.

Mr. LENNARTSON. In consultation with producers and with the National Turkey Federation and others they, along with us, felt it desirable to hold our purchases until the beginning of the heavy flow of turkeys in September, October, and November and, frankly, the great bulk of the turkeys are moving during that period and I think the price stabilization effects that last fall's turkey program provided were the finest we have ever experienced under the section 32 operation in the poultry field.

Mr. ANDERSEN. I agree with you as to what you have had to say so far as the vast bulk of turkeys coming to market in America, but I think you have said, too, and I recall, that the turkey market was in the doldrums quite badly in late August and the first of September.

Mr. LENNARTSON. Yes, sir.

Mr. ANDERSEN. Now, how much would it have cost the Government at that time to have prevented the market from getting into the doldrums in that period? There was comparatively little actual turkey on the market, was there not, Mr. Lennartson?

Mr. LENNARTSON. In contrast to the heavy movement season; yes.

Mr. ANDERSEN. The point I am bringing out is this:

Is it worthwhile to permit the turkey market—taking turkeys as an example—to first get into difficulty and then bail them out, or would it be better to prevent it from taking too long a slide to start with and then trying to hold it at a reasonable level?

Which would be the cheaper?

Mr. Natcher, do you see the point I am trying to bring out? I wonder if we were not a little late getting into that market.

Mr. LENNARTSON. It is difficult to generalize on a thing like that, Mr. Andersen. Generally, I would agree with you. The earlier you get in under average circumstances to stabilize the market to the extent you can with your purchases, it is desirable to get in early, but you cannot generalize because each year is a year unto itself, and each crop is a crop unto itself.

Mr. ANDERSEN. That is correct, but I was taking turkeys as an example.

HOGS

Let us go back to the preceding year, to hogs. A good many of us were begging the Secretary to get busy with hogs when they were around $16 in many areas. When they broke down below that, we started to suffer. When they went around $15.50 at St. Paul, we began to see results in the offing, but I do not think that any actual purchases were made by the Government until the hog market had broken to about $12.50, as I recall the rate.

I am trying to get information from both you and Mr. Wells, and the other gentleman, in connection with your program and you should know the answer and have the answer.

The question I am putting forth is: Would it not have done much more good to everyone concerned had we automatically gotten into the market, say, when it broke at $16, speaking about hogs now, rather than waiting until it became a heavy catastrophe?

Would it not have been cheaper, first of all, for the Government to get in there and say, "Well, we will not permit the price of hogs to go down below $16 at Chicago?"

And would it not have been better to all of the hog producers throughout the Nation? We have to recall that everyone who sold hogs below $16 down to $13 suffered an unnecessary loss of about $3 a hundred, or $6.50 or $7 per hog, on an average.

DISCUSSION ON UTILIZATION OF A FIXED PRICE AS THE CRITERION FOR INITIATING A SECTION 32 PROGRAM

I think Mr. Marshall has touched on this, but I wonder as a matter of policy would it not be, perhaps, wiser for the Congress to say that the Secretary shall step in and make a decided effort to support if hogs, for example, hit $16 or if turkeys hit so many cents a pound, or if this happens or if that happens?

Perhaps it is necessary for the Congress to get in and make it mandatory to support at a certain point on the perishables.

Am I right or wrong?

Mr. LENNARTSON. Well, there are a number of answers to your query. One is that you are talking price support rather than a temporary surplus removal program.

Mr. ANDERSEN. Well, to me, as the chairman has stated, I look on this section 32 as one of our best avenues to support perishables when they need it. To me that is part of section 32, and I have always held that to be my line of thinking.

Mr. LENNARTSON. Let us discuss that, then. You have indicated that the Secretary should have gotten in and said he would not permit hogs to drop below $16.

Mr. ANDERSEN. If there is any feasible way to prevent it.

Mr. LENNARTSON. Well, let us assume he is trying to do that with section 32 funds which have definite limitations on them; namely, the first one being that you cannot spend more than 25 percent of the funds available for any one commodity.

Mr. ANDERSEN. Do not get me wrong. I am not limiting it to the percentage which you can expend under section 32.

Mr. LENNARTSON. Well, it is an important question.

Mr. ANDERSEN. That is right.

Mr. LENNARTSON. When you make a decision as to what level you are going into the market and attempt to stabilize it, that is an important consideration. Finally, the matter of determining at what price you want to get in and attempt to stabilize is one that is not for Mr. Wells or me to make. That is a policy determination.

Mr. ANDERSEN. I know.

Mr. LENNARTSON. And, it certainly is true if you decide that you would like to stabilize a price, say, at 16 cents, then there is no sense in waiting until it drops to 12.5.

Mr. ANDERSEN. That is correct.

Mr. LENNARTSON. But, the point is what decision is needed as to the level of stabilization.

Mr. WHITTEN. Could I interrupt at that point, Mr. Andersen?

Mr. ANDERSEN. Yes, sir.

Mr. WHITTEN. That is the point, and is the issue that I have taken with the Secretary many times. There have been many times where, by moving fast before a price drop began, it did not take too much money to prevent it. Whereas, if you let the price break and try to lift it then it costs many times more money and, frequently, you do not succeed.

Mr. LENNARTSON. There is not any question about that.

Mr. WHITTEN. That leads to the question as to whether you have any policy. Unless you make your mind up in advance, you are liable to stand by as the Secretary has done frequently. Last year, he said that hogs had not fallen far enough to justify his going in and buying them. Well, that was a wide-open invitation to the packing industry to reduce the price further.

If you do not know what you are going to do, and have to act after the thing is going down, you in fact would seriously hamper the effectiveness of the program.

Mr. ANDERSEN. Mr. Lennartson has well stated that this is a matter of policy concerning which, of course, both he and Mr. Wells and Mr. Herrmann and others could only be in on an advisory basis.

They have no dictatorial power. You gentlemen cannot dictate policy, but I am just trying to explore in the record as to the advisability either pro or con as to where to actually get in and utilize everything that the Government has to, for example, keep these hogs from breaking below a certain level, and that applies to apples and any crop which has a major effect or any branch of agriculture which has a major effect upon the economy of any section of our Nation.

Mr. LENNARTSON. Of course, those are policy decisions, as you recognize.

Mr. ANDERSEN. Why, certainly. As I said, I am just opening this up for a little exploration because, as the chairman has stated, I, too, in the past have been very much disappointed in what has occurred, and like it says on the Government building down on Pennsylvania Avenue, I believe it is the Archives, "What is Past is Prologue." Study the past.

Well, I am studying. I am studying this situation as it happened relative to hogs in the fall of 1955 and I am trying to get a lead and a little information as to what happened to turkeys in the fall of 1956.

Mr. MARSHALL. Will my colleague yield to me for a moment?

Mr. ANDERSEN. Delighted.

CANADIAN PRICE SUPPORTS FOR PERISHABLES

Mr. MARSHALL. The chairman of our subcommittee, Mr. Whitten, and other members of this committee, I think, have rendered outstanding service to American agriculture in the interest that they have shown in foreign exports.

It has recently been called to my attention that our good neighbor to the north of us has had in operation a successful program in dealing with support prices on hogs and eggs.

It is my understanding that in Canada they are presently supporting the price of eggs on a warehouse basis at 38 cents a dozen—grade A eggs—and Mr. Gardiner made the remark on the floor of Parliament on February 11, 1957, that there have been very few instances reported to him where eggs at the country buying points in Canada have dropped below 30 cents a dozen—grade A eggs—and that those instances where they had dropped below were instances where there were market facilities available to the producers of eggs so that they could have obtained 30 cents a dozen, on the basis of grade A eggs, in his local market.

With the results of their handling of their perishable commodities in Canada, I would like to make this suggestion, Mr. Chairman:

I think it would be highly desirable for this committee, or some other committee of Congress, to explore the handling of the perishable commodities market in Canada to see exactly how it has been working and to see if possibly there might be something that we might gain from the standpoint of policy as to how we could handle similar type of programs here. Their programs have shown a considerable measure of success.

Mr. WHITTEN. We have worked on this problem for many years. Quite definitely our present Secretary of Agriculture, when he first came in, was rather adverse to price supports, not only with regard to section 32 funds, but with regard to regular price supports. The hearings are full of that viewpoint.

As a result of having little confidence in this type of approach on his part, about the only time that he ever moved was when the situation got bad and the pressure built up strongly. That attitude raises the point which was made in his statement on hogs. It invited the packing companies to reduce prices they were paying for hogs. Either he did not understand it, or else he was opposed to it.

You folks cannot make policy with regard to this, but certainly you should have a policy, so that when the danger signs start you are ready to move. Instead of waiting until hogs reach $10, and then try to lift them back up to $15, you should move in when they are $14.50 and stabilize them at $15.

Now, I think the Secretary has gone along on a whole lot of things to which he was opposed the first year he was in. But even then, it will not have the maximum effect unless you get together and evolve policy to meet these problems in advance of their happening.

Mr. ANDERSEN. I think, Mr. Chairman, it is unfair to the men working for Mr. Benson, like these gentlemen in the capacities they are in, to not have more or less a pattern or a policy to go by, because it puts you gentlemen in a very unfair position. I want to be frank with you. I would not want to be in your position where you just sort of hit or miss. I do not think it is right.

Mr. HORAN. Well, I think there is an element of caution that should be injected here. There is the matter of timing on price supports for hogs. If you put them in high enough, I understand you can quadruple your hog population in a mighty short time if you put the price support programs in at a time when there is not a favorable relationship to the farrow season.

Mr. WHITTEN. Could I interrupt there?

Mr. HORAN. I understand that within a period of a year you can have 15 hogs—someone raised that one time—and a small headache might become almost a brain tumor if some judgment is not used in the application of the price supports. The same thing would be true with eggs, broilers and so forth. Broilers might become layers in short order.

In other words, you might defeat your whole purpose unless the timing is right. I just throw that out as something we ought to think over, Mr. Chairman.

Mr. WHITTEN. I can see the point you make. I do not mean that they have to agree with me as to the exact time to take action in these fields. I have studied it thoroughly and have my views and I have been willing to urge them on the basis of what I thought was sound. But what I am urging is that they should have some pattern themselves in advance of something happening rather than waiting until the ox gets in the ditch and spending 2 or 3 weeks trying to decide whether to move him out.

However, that is a problem which we should take up with the Secretary since these people do not have that policymaking function.

FEDERAL AND STATE CONTRIBUTIONS TO SCHOOL-LUNCH PROGRAMS

Mr. HORAN. Could I get some enlightment here?

I want to know what the total benefits to agriculture were and some explanation of the last paragraph, paragraph D on page 89 of the justifications, wherein it states as follows:

Commodities utilized during 1956 in the school lunch program cost approximately $488.7 million. Of this amount, about $374 million was expended by schools locally—both Federal and State funds. The remaining $114.7 million is the estimated cost of 352.1 million pounds of commodities which the Department purchased and distributed to schools under section 6 of the National School Lunch Act, section 32 of the act of 1935, as amended, and section 416 of the Agricultural Act of 1949, as amended.

Mr. WELLS. Mr. Horan, the appropriation for the School Lunch Program itself was $100 million for the current fiscal year.

Mr. HORAN. Specifically to be spent for food?

Mr. WELLS. No.

Mr. HORAN. There is a provision in our language that prohibits you to use that for nonfood purposes?

Mr. WELLS. I am sorry, sir. The appropriation is $100 million, and for a number of years we have set aside under section 6 of the school lunch program approximately $15 million which we use to buy foods not necessarily in distress, but usually good buys that supply some variety and some nutritive content, and that was done after consulting with the school lunch people. The other $85 million is used for distribution to the schools in the form of cash and for administrative expenses.

Mr. HORAN. How much did you spend for administration?

Mr. WELLS. It is about $1 million. We set aside $15 million for section 6, roughly, and something over $83 million goes to the States and over $1 million for administration. The States must, as you know, match what goes to them under a certain formula. In other words, they put funds from sources within the States alongside our funds and they buy food in the open market.

In addition to that available from the school lunch appropriation, we supply through section 32 purchases, or in the case of Commodity Credit through donations under section 416 of the commodity credit legislation, surpluses which the Federal Government has and which we believe can be used to advantage in the school lunch program, and which are healthful, nutritious food.

During the current year we will distribute to the schools section 32 and section 416 commodities in excess of $125 million.

Mr. HORAN. Making a total Federal contribution of how much?

Mr. LENNARTSON. Well——

Mr. HORAN. Making a total Federal contribution of how much in all categories?

Mr. LENNARTSON. About $225 million or more from these sources.

Mr. HORAN. In addition to the $100 million?

Mr. LENNARTSON. No; $100 million plus $125 million of surplus commodities.

Mr. HORAN. That is what I meant.

Mr. LENNARTSON. Plus the additional eggs, Mr. Andersen, as we buy them from now on, under the purchase program resumed this month, and plus any additional butter we might pick up. The additional eggs and the additional butter that may become available are not in this $125 million. It includes only the commodities on which we had commitments as of last week.

Mr. HORAN. From where does that money come with which you buy the pork, the eggs, and the butter?

Mr. WELLS. That comes from section 32 and section 416.

Mr. HORAN. Is that from the $100 million?

Mr. WELLS. No, sir.

Mr. HORAN. Is that separate?

Mr. LENNARTSON. The $100 million is the direct appropriation under the School Lunch Act.

Mr. HORAN. It specifically says, "No part of this appropriation shall be used for nonfood assistance."

Mr. WELLS. That is, that money is not to be used for fixing up lunchrooms and buying stoves and facilities.

Mr. HORAN. I agree. I think it is a local function that ought to be performed by the local school.

Mr. LENNARTSON. The $100 million is under the School Lunch Act. The section 32 funds are entirely separate from that.

Mr. HORAN. That is out of section 32 funds?

Mr. LENNARTSON. In the current fiscal year we will probably spend better than $125 million of section 32 funds.

Mr. HORAN. A total of $225 million.

Mr. WELLS. In addition, there is a special milk program.

Mr. HORAN. In addition to the $225 million?

Mr. WELLS. We estimate that to be $60 million this year.

Mr. HORAN. $285 million. That is all Federal. Do these figures include 416 and section 6?

Mr. WELLS. Yes. The $125 million includes section 416 and the $100 million includes section 6.

Mr. HORAN. So the Federal contribution potentially for the present season is in the neighborhood of $285 million.

Mr. LENNARTSON. Yes; in the neighborhood of $285 million.

Mr. HORAN. I wish your justification to be clear. I want to keep that clear.

Do we have an educated guess on the total that is spent by all agencies, local, private, and Federal?

Mr. LENNARTSON. It is in the table in the justification. It is getting close to a billion-dollar program.

Mr. HORAN. I believe that is in the record.

Mr. WHITTEN. I understand it is.

Mr. HORAN. That is all.

Mr. WHITTEN. Mr. Vursell.

Mr. VURSELL. How much was spent last year?

Mr. LENNARTSON. Comparable figures are in the table for 3 years. $228 million was spent in fiscal year 1956 of Federal funds in terms of the appropriation plus the foods, $228,168,000.

In addition to that, the schools and the States, communities, and so forth, spent $519 million on the program, making a total program nationally of $747 million.

Mr. VURSELL. The reason I asked that question is my opponent charged me with being against the school lunch program last year in toto.

Mr. WHITTEN. Are there any further questions on section 32?

Perishable Agricultural Commodities Act Fund

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
Direct obligations: Licensing dealers and handling complaints	$493,678	$560,000	$684,000
Reimbursable obligations: Licensing dealers and handling complaints			25,400
Total obligations	493,678	560,000	709,400
Financing:			
Unobligated balance brought forward	−359,442	−304,401	−290,401
Advances from "Marketing research and service, Agricultural Marketing Service" (7 U. S. C. 499s)			−25,400
Unobligated balance carried forward	304,401	290,401	281,401
Appropriation	438,637	546,000	675,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
Total number of permanent positions	107	100	112
Full-time equivalent of all other positions		2	2
Average number of all employees	79	88	107
Number of employees at end of year	81	95	107
Average salaries and grades:			
General schedule grades:			
Average salary	$5,294	$5,373	$5,373
Average grade	GS–7.2	GS–7.3	GS–7.5
Ungraded positions: Average salary	$3,836	$3,703	$3,703
Personal service obligations:			
Permanent positions	$401,434	$437,495	$528,245
Positions other than permanent	980	5,905	5,905
Regular pay above 52-week base	1,545		1,970
Payment above basic rates	131		
Total personal obligations	404,090	443,400	536,120
Direct obligations:			
01 Personal services	404,090	443,400	536,120
02 Travel	28,886	44,000	65,000
03 Transportation of things	1,888	2,000	3,500
04 Communication services	19,252	25,600	27,000
05 Rents and utility services	3,373	3,700	3,500
06 Printing and reproduction	7,758	19,100	20,000
07 Other contractual services	11,219	7,670	8,000
Services performed by other agencies	608	5	5
08 Supplies and materials	9,655	9,200	12,930
09 Equipment	6,327	4,400	7,000
13 Refunds, awards, and indemnities	150	400	400
15 Taxes and assessments	472	525	545
Total direct obligations	493,678	560,000	684,000
Reimbursable obligations:			
11 Grants, subsidies and contributions: Contribution to retirement fund			25,400
Total obligations	493,678	560,000	709,400

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$438,637	$546,000	$675,000
Balance brought forward:			
Unobligated	359,442	304,401	290,401
Obligated	31,559	30,637	59,037
Total budget authorizations available	829,638	881,038	1,024,438
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	494,600	196,562	230,162
Out of prior authorizations		335,038	349,438
Total expenditures	494,600	531,600	579,600
Balance carried forward:			
Unobligated	304,401	290,401	281,401
Obligated	30,637	59,037	163,437
Total expenditures and balances	829,638	881,038	1,024,438

Mr. WHITTEN. If there are no further questions, we will proceed with the next item which is "Perishable Agricultural Commodities Act Fund." In that connection we will include in the record at this point page 96 through 101 of the justifications.

(The pages referred to follow:)

Perishable Agricultural Commodities Act fund

Appropriation, 1957 and base for 1958 (from receipts)	$546,000
Budget estimate, 1958 (from receipts)	675,000
Increase (in annual permanent appropriation due to estimated increase in revenue)	129,000

NOTE.—A total of $965,401 is estimated to be available for obligation in fiscal year 1958, including an unobligated balance of $290,401 to be carried forward from 1957. Of this total, the estimates tentatively forecast obligations of $684,000 for fiscal year 1958, an increase of $124,000 compared with 1957, which leaves an unobligated balance of $281,401 to be carried forward into fiscal year 1959.

Project statement

Project	1956	1957 (estimated)	Increase or decrease	1958 (estimated)
Licensing dealers and handling complaints	$493,678	$560,000	+$124,000	$684,000
Unobligated balance brought forward	−359,442	−304,401	+14,000	−290,401
Unobligated balance carried forward	304,401	290,401	−9,000	281,401
Total appropriation or estimate	438,637	546,000	+129,000	675,000

INCREASE

(1) An increase of $124,000 in obligations to carry out more effectively the provisions of the Perishable Agricultural Commodities Act, as amended.

Need for increase

Public Law 842, approved July 30, 1956, amends the Perishable Agricultural Commodities Act of 1930 in several respects to provide greater strength and more effectiveness. The amendments do not broaden the scope or the original intent of the act of 1930. The law was amended for the purpose of correcting certain deficiencies which had become apparent in the administration of the act. To

carry out these amendments will entail a considerable increase in the workload of the Department as indicated in the following tabulation.

	1956	1957 (estimated)	1958 (estimated)
Complaints on hand beginning of year	760	692	642
Complaints received or reopened	2,140	2,350	2,500
Total complaints handled	2,900	3,042	3,142
Formal decisions	288	250	320
Informal amicable settlements	1,036	1,200	1,270

Changes in marketing methods and practices which have taken place since 1930 have resulted in more complex business transactions and larger numbers of complaints. These in turn have resulted in appreciable backlogs and delays in investigations, reviews, and decisions. These deficiencies, backlogs and delays brought about criticism from industry representatives and pointed up the need for amendment to the law. In testimony at the hearings on H. R. 5337 (Public Law 842) the industry representatives supported all phases of the amendment and stated that they were willing to pay the cost of obtaining the necessary services.

The additional workload resulting from these amendments will be in connection with—

(*a*) Broadened authority of the Department to deny licenses.

(*b*) Authority to investigate in order to uncover misbranding and mislabeling whether or not complaint has been filed.

(*c*) Authority to take corrective action on mislabeling or misbranding whether or not fraud is involved.

Under the original law the Department was authorized to inspect records of licensees upon receipt of complaint. It was necessary to prove "fraudulent purpose" in connection with the misbranding of any perishable agricultural commodity. Such proof has been eliminated under the amendment and, in addition, the Department now may inspect produce to verify designations of grade or State of origin as well as inspect the records of a licensee. If inspection of produce is refused the license may be suspended for a period up to 90 days. Also, licenses may be denied to applicants who have at any time been convicted of a felony or who have within the past 3 years been involved in bankruptcy proceedings.

Plan of work

Additional technical and clerical personnel will be added to the staff to handle regular complaint work which has been increasing and which comprises a large part of the workload under the act. Additional personnel will also be required for checking the branding as to grade and State of origin of major fruits and vegetables at shipping points and terminal markets. Most of the technical employees will be in almost continual travel status in order to check on as many as possible of the thousands of packers and repackers scattered through the country who are subject to the act. More intensive screening of applications for licenses will be performed to determine that applicants are eligible.

The license fee will be increased to provide the necessary funds for carrying out these requirements.

STATUS OF PROGRAM

Current activities

This special fund, replenished by license fees, is used for the administration of the Perishable Agricultural Commodities, Produce Agency, and Export Apple and Pear Acts. These laws are designed to (1) protect producers, distributors, consumers, and others, from unfair and fraudulent practices in the marketing of perishable agricultural commodities; (2) prevent the destruction or dumping of farm products; and (3) promote foreign trade in apples and pears. Handlers are required to give shippers a true and correct accounting for commodities sent for sale in the market. Buyers and sellers must live up to the terms of the contract; false or misleading statements, and misbranding, etc., are prohibited.

All commission merchants, dealers, and brokers who handle fresh and frozen fruits and vegetables in interstate and foreign commerce must be licensed under the Perishable Agricultural Commodities Act.

Anyone financially interested in a transaction covered by the law may request the assistance of the Department. The Department will promptly communicate with the other party, make necessary investigation, endeavor to bring about an

amicable informal settlement, take formal action, if necessary, give each party an opportunity to present his side fully, determine the loss or amount of damage to be paid, and if the violation is found to warrant such action, publish the facts and suspend or revoke the offender's license. The majority of cases involve questions of quality and condition. Much of the evidence is supplied by the inspection certificates and other pertinent information furnished by complainants and respondents.

Activities under these acts include licensing, collections of fees, and investigation and handling of complaints and violations.

Financing

Under authority of the Perishable Agricultural Commodities Act, as amended, annual license fees, together with arrearage fees, are deposited into a special fund. All expenses, except legal services, for administration of the Perishable Agricultural Commodities, Produce Agency and Export Apple and Pear Acts are paid from this fund. During 1956 the license fee was $15. Public Law 842, approved July 30, 1956, authorized an increase in the fee to a maximum of $25.

Revenue and obligations

	Revenue collected and obligations incurred				
	1954	1955	1956	1957 (estimated)	1958 (estimated)
Fees and arrearages collected	$428,157	$444,174	$438,637	$546,000	$675,000
Balance from prior years used			55,041	14,000	9,000
Obligations	384,170	419,745	493,678	560,000	[1] 709,400

[1] Includes $25,400 for retirement costs to be advanced from Marketing Research and Service.

SELECTED EXAMPLES OF RECENT PROGRESS AND TRENDS

PAC Act strengthened by amendment

Public Law 842, approved July 30, 1956 amends the Perishable Agricultural Commodities Act to correct certain deficiencies which had become apparent in the administration of the act. In addition to authorizing an increase in the annual license fee, the amendment (1) strengthens the provisions relating to misbranding or misrepresentation of grade and origin of fresh fruits and vegetables; (2) Permits the Secretary to deny issuance of a license to any person convicted of a felony in any State or Federal court; (3) Authorizes the Secretary to deny a license to any applicant involved in bankruptcy proceedings within 3 years unless the applicant furnishes bond or other assurance satisfactory to the Secretary; (4) Empowers the Secretary to suspend the license of a person employing in any responsible position an individual whose license is under suspension; and (5) Provides authority for the inspection of any perishable commodity covered by the act.

This amendment was recommended by the fruit and vegetable industry and is expected to result in improved marketing practices in these commodities. Revision of the Department's regulations and explanatory pamphlets and other material will be prepared during 1957 to reflect the changes in the law.

Licensing

Activities increased.—Licenses in effect as of June 30, 1956 totaled 26,838 as compared with 26,822 a year ago. The licensing activity and number of licenses in effect at the end of the past 3 years and estimated for 1957 and 1958 are as follows:

Activity	Fiscal year				
	1954	1955	1956	1957 (estimated)	1958 (estimated)
Licenses renewed	19,912	20,378	20,553	20,538	20,250
New licenses issued	6,460	6,444	6,285	6,462	6,750
Licenses terminated	5,533	5,994	6,269	6,300	6,700
Total actions	31,905	32,816	33,107	33,300	33,700
In effect June 30	26,372	26,822	26,838	27,000	27,000

Complaints and reparations

Complaints decrease and reparations increase.—During 1956, informal advice and counsel given the industry were instrumental in the settlement of disputes before they reached the complaint stage. This assistance is reflected in the reduction in the number of complaints filed.

There were 2,900 complaints to be handled in 1956 including 760 from fiscal year 1955 and 46 reopened during 1956. A total of 2,208 of these cases were settled during 1956 leaving 692 to be taken up in 1957.

Analysis of complaint work and reparations awarded

	Fiscal years				
	1954	1955	1956	1957 (estimated)	1958 (estimated)
Complaints:					
On hand beginning of year	775	828	760	692	642
Received or reopened	2,416	2,285	2,140	2,350	2,500
Total to be handled	3,191	3,113	2,900	3,042	3,142
Formal decisions	282	235	288	250	320
Informal amicable settlements	1,120	1,144	1,036	1,200	1,270
Otherwise closed	961	974	884	950	950
Pending June 30	828	760	692	642	602
Reparations:					
Awarded—formal orders	$315,304	$247,920	$299,523	$300,000	$325,000
Payments—amicable settlements	920,318	994,939	975,962	1,000,000	1,000,000
Total	1,235,622	1,242,859	1,275,485	1,300,000	1,325,000

Basis for settlements.—Settlements are made on the basis of precedents established by Secretary's orders in previous cases handled. These decisions, published and distributed to the industry, are used as the basis for settling disputes informally. The cases referred to the Department are, in general, those which are difficult and those for which no precedents have been established. In fiscal year 1956 there were 288 formal decisions, an increase of 53 over the previous year.

Investigations made and settlements reached.—Personal investigations were conducted in 859 cases, 41 cases were submitted to arbitration, a reduction from the 78 cases submitted in fiscal year 1955. Many dealers favor this method of settling their disputes and are willing to sign agreements to accept the decision rendered as final and binding on both parties.

Amicable settlements were effected in approximately 50 percent of the cases closed and payments of nearly $976,000 made to the complaining parties.

A total of 159 disciplinary cases were handled including misbranding complaints totaling 104. Two outstanding cases involved shippers who shipped misbranded potatoes after obtaining inspection certificates. Both admitted the violations and agreed to suspend all produce operations for a period of 90 days.

The remaining 55 disciplinary complaints included questioning the applicant's fitness to hold a license under the act, failure to maintain adequate records, operating without valid license, etcetera. Penalties were imposed in 28 cases compared to 5 cases in the previous year. In 8 cases licenses were revoked and 7 dealers were enjoined by United States courts from operating without license.

Backlog reduced.—Continuous efforts have reduced the backlog of cases to 692, the smallest number since 1947. Of the 692 cases pending there are 146 reparation and 14 disciplinary cases in the Office of the General Counsel and in the Justice Department.

Produce Agency Act cases.—Under this act there were 38 new cases filed compared with 53 in the preceding year; 29 cases were carried over from the prior year; 39 cases were closed, 26 by amicable settlement; and 28 cases were pending at close of year. Two cases involving fruits and vegetables were prosecuted in Federal court. In one case the defendant was fined and placed on probation for 2 years and in the other case the defendant was fined.

The Attorney General has determined that cut flowers are subject to the provisions of the Produce Agency Act.

Export Apple and Pear Act.—No complaints were filed under the Export Apple and Pear Act during the 1956 fiscal year.

Mr. WHITTEN. Do you have a general statement?

Mr. LENNARTSON. I have a general statement I could include. We are reflecting an increase of $124,000 to enable us to take up the additional responsibilities created under this act as a result of passage of Public Law 842. This is an act that is self-supporting in that the fees collected for licenses compensate for the cost of operating it.

GENERAL STATEMENT

PURPOSE AND OPERATIONS

This is the fund used to administer three regulatory laws (Perishable Agricultural Commodities, Produce Agency, and Export Apple and Pear Acts) aimed at assuring equitable treatment to buyers and sellers of primarily fresh and frozen fruits and vegetables. Dealers and brokers handling these products are required to be licensed. In addition to this activity, the program includes investigation of complaints of violations. In some cases, disputes between buyers and sellers are settled through informal, amicable negotiations. In other cases, formal decisions must be made involving payment of reparations awards between parties and, in some cases, suspension or revocation of the offender's license.

The PAC Act was amended on July 30, 1956, in several respects to lend it greater strength and more effectiveness by correcting certain deficiencies which have become apparent in the administration of the act.

FINANCING ARRANGEMENTS

Commission merchants, dealers, and brokers handling these products in interstate and foreign commerce must obtain a license which now costs $25 annually (the maximum authorized). These license fees, together with arrearages for those subject to the PAC Act who have been operating without a license, are deposited into a special fund (PACA Fund) and used to pay the cost in AMS of administering the three laws.

CURRENT ACTIVITY

Although licensing activity has been accelerating slightly over the past 4 or 5 years, the trend is now leveling off. This is caused by the continuing trend in all segments of the fresh fruit and vegetable industry toward consolidation from small independent operators to large chain organizations. Nearly 26,850 licenses were in effect on October 31, 1956.

Complaints received fluctuate from year to year. Nearly 50 percent of the cases are settled through amicable informal settlements. Additional workload is expected to result from the recent amendments in connection with broadened authority to deny licenses, authority to uncover misbranding or mislabeling whether or not a complaint has been filed, and authority to take corrective action on mislabeling and misbranding whether or not fraud is involved.

Efforts are also continuing to handle cases promptly and reduce the backlog.

FUND REQUIREMENTS

In fiscal year 1956 the cost of administering these programs exceeded the revenue collected for that year by more than $50,000. This deficit was met out of the balance carried over from the previous years. This was due in part to increased pay and travel costs, but also reflects expansion started several years ago to expedite the handling of complaints.

The fee increase which was effective February 1, 1957, will bring in nearly enough revenue to cover costs estimated for this year.

The budget for 1958 reflects the revenue expected on the new rate and the estimated costs for carrying on the program at the level required for effective administration of the old law as well as the new provisions.

Since the annual revenue is not expected to be quite sufficient to meet the cost of adequately carrying out the acts, funds for meeting the cost of retirement contributions are budgeted in the Marketing Services subappropriation.

Mr. WHITTEN. Perhaps your justifications will make it clear, but please be sure the record shows the pertinent part of the act, your responsibilities under it, and your experience.

Mr. LENNARTSON. It is covered here completely.

Mr. WHITTEN. We are glad to have that in the record.

AMENDMENTS TO THE PERISHABLE COMMODITIES ACT

Mr. WELLS. At the request of the industry, the act was amended last year and the license fee was increased to take into account the additional cost of doing the work.

Mr. LENNARTSON. It is strongly supported by the industry itself.

Mr. WHITTEN. It might be well to explain to us what this new work consists of.

Mr. LENNARTSON. We can do that. I might read this statement from the justifications:

> Public Law 842, approved July 30, 1956, amends the Perishable Commodities Act in several respects to provide greater strength and more effectiveness. The amendments do not broaden the scope of the original intent of the act of 1930. The law was amended for the purpose of correcting deficiencies which had become apparent in the administration of the act. To carry out these amendments will entail a considerable increase in the workload of the Department, as indicated in the following tabulation.

We have the tabulation of activities, but specifically the additional workload is associated with (*a*) broadening authority of the Department to deny licenses, (*b*) the authority to investigate in order to uncover misbranding and mislabeling, whether or not complaint has been filed, (*c*) authority to take corrective action on mislabeling or misbranding, whether or not fraud is involved.

Reimbursement to Commodity Credit Corporation for Advances for Grading and Classing Activities

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
Repayment of advances from Commodity Credit Corporation for classing cotton and grading tobacco (total obligations)		$367,740	$80,449
Financing:			
Appropriation		367,740	80,449

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
14 Interest		$8,215	$3,448
Undistributed: Repayment of advances from Commodity Credit Corporation		359,525	77,001
Total obligations		367,740	80,449

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation		$367,740	$80,449
EXPENDITURES AND BALANCES			
Total expenditures (out of current authorizations)		367,740	80,449

Mr. Whitten. We come now to "Reimbursement to the CCC." We will put in the record at this point pages 525 and 526 of the justifications.

(The pages referred to follow:)

Reimbursement to Commodity Credit Corporation for Advances for Grading and Classing Activities, Agricultural Marketing Service

PURPOSE STATEMENT

The Department of Agriculture Appropriation Act for 1952 authorized advances from the Commodity Credit Corporation to appropriations available for classing and grading agricultural commodities without charge to producers in order to insure a prompt, efficient service. Such advances must be repaid from subsequent appropriations.

This item reflects funds for reimbursing Commodity Credit Corporation (including interest) so that the Corporation may be made whole for funds advanced which were in excess of the cost of classing cotton and grading tobacco which were placed under price support.

Appropriated funds:

Appropriated, 1957 (1955 costs)	$367,740
Budget estimate, 1958 (1956 costs)	80,449

Reimbursement to Commodity Credit Corporation for advances for grading and classing activities, Agricultural Marketing Service

Appropriation Act, 1957 and base for 1958	$367,740
Budget estimate, 1958	80,449
Decrease (due principally to the large volume of Smith-Doxey classed cotton placed under CCC loan)	−287,291

Project statement

Project	1956	1957 (estimated)	Decrease	1958 (estimated)
Reimbursement to Commodity Credit Corporation		$367,740	−$287,291	$80,449

Mr. WHITTEN. You may present your statement.
Mr. LENNARTSON. Very well.

GENERAL STATEMENT

This appropriation is in essence a funding arrangement, authorized by Public Law 135, 82d Congress, to assure effective administration of certain mandatory grading and classing activities with a minimum of direct appropriation.

The volume of cotton classings under the Smith-Doxey Act and tobacco grading under the Tobacco Inspection Act and the volume of these commodities going under price support programs fluctuates greatly from year to year. Also the appropriated funds required to administer the Cotton and Tobacco Acts and to perform the classings and gradings required by law similarly fluctuate.

To assure effective operation of these programs, with a minimum of appropriations, the Congress has authorized advances from the Commodity Credit Corporation to meet costs above those that can be met from the Marketing Services appropriation. That portion of the advances which are used for cotton classed and tobacco graded which do not go under CCC loan must be repaid to CCC.

Usually some unobligated balances of Marketing Services funds are available at the end of the fiscal year which are drawn on to repay CCC. These amounts, of course, vary depending upon other program needs and operations during the year. In some years, the volume of commodities going under price support loans and the available balance from Marketing Services make a subsequent direct appropriation to reimburse CCC unnecessary. This occurred in 1954. In other years, such as for 1955, it was necessary to appropriate $367,740 in fiscal year 1957.

For the 1956 operation, a net amount of only $80,449 is estimated to be required to compensate CCC for the total advance of $1,768,500 made for the 1956 operation after consideration is given to the volume of commodities going under loan and after utilization of an offsetting unobligated balance of $100,000 from the Marketing Services subappropriation. Accordingly, the amount requested in the appropriation for 1958 is $80,449. This is a decrease of $287,291 from the 1957 amount.

Mr. WHITTEN. Are there any questions in that connection? If not, gentlemen, we wish to thank you for your appearance. We

think you do a good job of handling your work. I know you enjoy the confidence of this committee. We are appreciative of the fine work that you do.

Mr. ANDERSEN. Mr. Chairman, might I state in that connection I think we have had before us the last few days a group of gentlemen who really know their subjects, who are interested, as we are, in trying to do the best job that can possibly be done.

The fact that we have been interested enough to ask these questions, gentlemen, as you have gone along, indicates our interest in what you are trying to do. Perhaps we became a little critical at times, but the main portion of that criticism, as I have noticed it the last few days, really should be directed at a level above you gentlemen.

I want to join in your commendation, Mr. Chairman, for the good job these men are doing.

Mr. LENNARTSON. We appreciate your courtesy and your consideration.

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